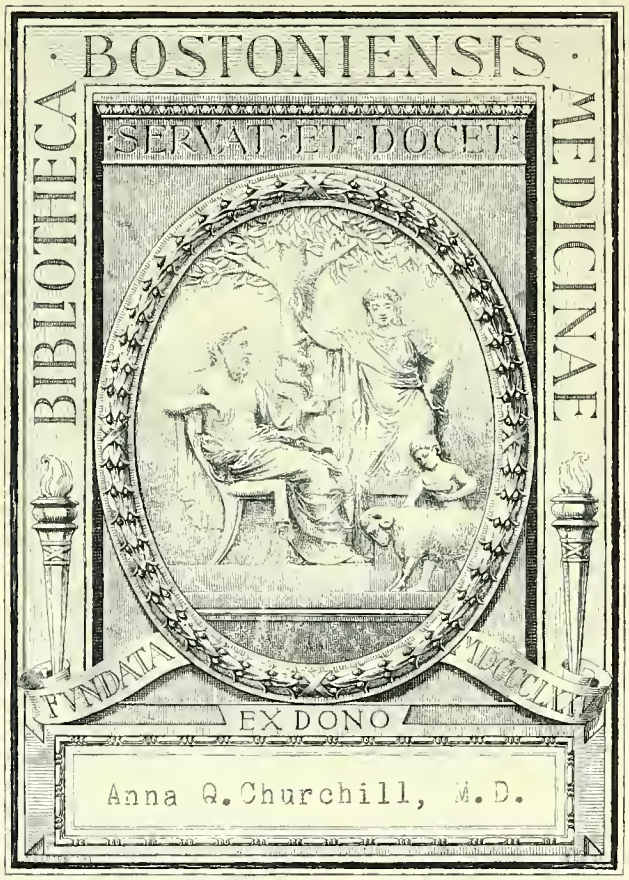
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THE

EXPLANATION

OF

ALBINUS's Anatomical FIGURES

OF THE

HUMAN SKELETON

AND

MUSCLES.

With an Hiſtorical Account of the WORK.

TRANSLATED FROM THE LATIN.

TO WHICH IS ADDED

The EXPLANATION of the SUPPLEMENT to

ALBINUS,

CONTAINING

A Compleat Anatomical Deſcription of the BLOOD-VESSELS and NERVES, and the External Parts of the HUMAN BODY.

The Figures of Albinus, and the Supplement, are curiouſly engrav'd on Fifty-One large Copper-Plates, Fifteen Inches by Twenty-Two.

LONDON:

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AN HISTORICAL ACCOUNT OF THE WORK.

I Imagine it will not be diſagreeable to the reader, to explain to him in what manner thoſe figures were conſtructed, by which means he will be rendered the more capable to judge of them. And in order to this, I ſhall not only mention thoſe things which ſucceeded according to my wiſh, but alſo thoſe obſtacles which I met with in this work; that thereby he may the more eaſily underſtand what is to be avoided, and what is to be obſerved, in a work of this nature. Firſt then, I ſet out with planning the muſcles, and was extremely deſirous to have them exactly expreſſed in the figures, not only ſingly, but in the order in which they lie with one another, and this laſt I thought the moſt proper to begin with. But as a great many of the muſcles are placed behind others, it was neceſſary to divide them into certain claſſes, the firſt of which contains thoſe which lie immediately under the teguments, the ſecond thoſe next to them, and ſo of the reſt. Wherefore I wanted not only that the members ſhould be kept in the ſame poſition while the figures of theſe different claſſes were taking off, but that theſe claſſes ſhould be exactly continued into one another, and by this means, that they might all appear the ſame as they do in the body when put in the ſame light and poſition. With this view, I expoſed theſe claſſes of muſcles before the ingraver, in the ſame method as moſt other anatomiſts have done before, and he did them as well as he poſſibly could. But the chief impediment in the way was this; that as in drawing the firſt claſſes, ſome, both of the muſcles and bones, were only expoſed in part, but fuller expreſſed in the next, after the firſt muſcles, which covered them before, were removed; he could not poſſibly draw thoſe parts of them in the firſt claſſes (which by being firſt expoſed, were firſt to be taken off) in ſuch a manner, as that at the ſame time they ſhould be continued directly into the following, and after they

were thus continued, preſerve their proper ſituations as they do in the body. But although afterwards, as the inner claſſes explained what was to be done, the figures of the outer ones were accordingly mended, and all the figures were tolerably well done, and diſcovered a great deal of ſkill in the ingraver, yet I was not ſufficiently pleaſed with them, becauſe things were neither connected in them ſo well as I could wiſh, nor were they diſtinctly, nor elegantly enough deſigned; and they were quite different from thoſe which I had planned in my own mind. This I was convinced of upon trial in ſome parts which I examined, *viz.* the belly, breaſt, arms, and face. And from this I diſcovered what was to be done, in order to amend what I thought was deficient. I obſerved that in drawing, as the firſt order of muſcles ſufficiently diſplayed the figure of the limbs in general, they could be well enough expreſſed by the ingraver in ſuch a manner, as juſtly to repreſent the figure of theſe parts; but that after the external muſcles were removed, the further he proceeded amongſt the internal, the figure of the parts growing more and more imperfect, was of leſs aſſiſtance to him in drawing theſe parts, and he was obliged to accommodate them to the firſt, as the baſis. And he muſt ſucceed ſtill worſe in the bones and ſkeleton, becauſe the order in which they lie, though it bears a reſemblance to the figure of the human body in general, yet at the ſame time it differs conſiderably from it. But unleſs the ſkeleton, to which the muſcles are affixed, was juſtly drawn, the muſcles themſelves could never be right repreſented. I underſtood beſides, that every thing that was done muſt be very unſatisfactory, unleſs the proper dimenſions of the different parts were carefully marked. But here there were great difficulties to be overcome. For, in the firſt place, the parts muſt all be accurately meaſured, and afterwards their dimenſions marked in the figures. Beſides, ſuppoſing this could be ever ſo well done, yet there were other obſtacles hardly to be ſurmounted. To be ſure it is very evident, that whatever is the poſition of the body or limb, the ſame it muſt be repreſented in the figure, provided the dimenſions of the parts are accurately marked. But there are ſome parts which can be put into proper poſitions and meaſured; ſuch as the head, arms, hands, legs, and feet: and others which cannot; as the trunk, and neck. By this means it muſt happen, that theſe laſt muſt be expreſſed in an improper poſition, unleſs it be left to the ſkill of the ingraver to correct, which I did not chuſe to do, for fear of a miſtake, as he could not demonſtrate to me that he was ſure of doing it right. And provided they could all have been put into proper poſitions, yet if upon ſearching and handling the muſcles, or from any other cauſe, the firſt poſition of the part ſhould in the leaſt be changed, it appeared hardly poſſible to replace it in ſuch a manner, as that every thing ſhould exactly correſpond to thoſe which had been before taken off. Beſides, as was ſufficiently evident, one and the ſame body could never do for the whole, and others would either not correſpond, or, if they ſhould, could they be put ſo exactly into the ſame ſituation, as that all the dimenſions could be accurately expreſſed. Hence it appeared plain, that what I wanted was ſomething more than even the beſt anatomiſts trouble their heads about, it being uſual for them to make only random figures of the parts, without conſidering either the orders, dimenſions, continuations,

tinuations, or connexions of them with one another. Which figures although they may be uſeful, nay extremely uſeful, yet they are deficient in many things which ought to be ſupplied, and render them perfect; which in every thing is the hardeſt to be done. But why need I inſiſt any longer on this ſubject? It appeared very evident, that I muſt purſue another method, and either drop intirely my intended ſcheme, or find out ſome certain rule by which to make my figure. And as human bodies, though they differ from one another in a great many things, yet agree in the whole; I muſt pitch upon ſomething that is common to them all, as the baſis or foundation to build my figures upon. And this is the ſkeleton: which being a part of the body, and lying below the muſcles, the figures of it ought firſt to be taken off, as a certain and natural direction for the others. It was proper therefore to begin with the figures of the ſkeleton, and to theſe the figures of the muſcles were to refer. For the figures of the ſkeleton being firſt conſtructed, as in moſt men at leaſt, of whatever ſize or make, the muſcles are connected and poſited with the bones almoſt in the ſame manner, and in the ſame places; it muſt conſequently happen, that the muſcles may be referred to theſe figures, even in other bodies, very different from one another, provided they are not deformed, if they are ingraved as belonging to the figures of the bones in theſe bodies. There likewiſe occurred to me another uſe of the above rule, *viz.* that by the figures of the muſcles being conſtructed in this manner, a great many of the muſcles themſelves could be found out by them in the living ſubject, and the ſituations of almoſt all of them. For in the firſt place, by the aſſiſtance of the figures of the ſkeleton, it would be no difficult matter to know a great part of the bones in the living body, and ſuch of them as could not be thoroughly diſcovered, their ſituations and poſitions might be clearly underſtood, or ſufficient hints given in order to diſcover them; and theſe being once known, and examined, we ſhould have it in our power to judge how the muſcles are ſituated with reſpect to the bones, as in the figures. And beſides, the figures of the ſkeleton and muſcles being conſtructed, the figures of the viſcera might be referred to them; and to theſe, after they were conſtructed, the figures of the arteries, veins, nerves, *&c.* might likewiſe be referred. For as architects, having firſt laid a certain foundation, upon it build the edifice, together with all its parts; ſo we may conſider the muſcles connected to the ſkeleton, as to the foundation; the viſcera, and other parts in their proper ſituations: then the nerves, veins, and arteries, properly diſpoſed, and whatever elſe is neceſſary towards the conſtruction of the human fabric. It is by far the beſt way then for art to imitate this method, which nature has pointed out. And this has made me diſcover, that *Euſtachius* in his tables has followed a plan of ſomewhat the ſame nature.

Leaving therefore theſe firſt rudiments, as ſufficient only to diſcover and teach what was to be done, I immediately ſet about contriving the figures of the ſkeleton. And in order to make them good as a foundation for the others, it was requiſite they ſhould be accurate, and repreſent the ſkeleton from which they were taken to the life. But that every part of the bones might appear diſtinct in the figures, it was neceſſary they ſhould be cleaned

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as carefully as poſſible. and therefore ſeparated from one another; and how to join them again accurately was the difficulty. Neither was it poſſible to be certain that they were right joined together again, unleſs by comparing them with the natural ſtate; and how this could be done, was not eaſily determined. Beſides if it was, it might eaſily be conjectured, that though they ſhould be conjoined again naturally in general, yet it could not be done with that exactneſs which I wiſhed for, ſo as to make the other parts accurately correſpond. Add to this, that by cleaning the cartilages of the joints ſufficiently, they muſt either be deſtroyed, or at leaſt very much hurt; and therefore when they are joined again, the articulations will not be ſo fit as they were before. And the more deficient that the former figures of ſkeletons were in this reſpect, I thought myſelf obliged to be at the more pains to find a remedy for it. After ruminating for ſome time about a proper method, it came into my head, that the readieſt way of effecting what I deſired, was to prepare a freſh ſkeleton in ſuch a manner, as to leave the ligaments of the joints intirely whole; and after an exact figure had been taken of it in that ſhape, to cut and remove the ligaments, and ſo have thoſe parts which were hid by them added to the figure. And this method ſeemed to be extremely natural. But I foreſaw in my mind, that it would be a very laborious taſk, to make a ſkeleton of that kind; and a difficult matter, after it was prepared, to keep it in proper order. Beſides I was afraid, leſt, as the taking a draught of ſuch a ſkeleton would require a conſiderable time, in the mean while, partly by the drying of the cartilages and ligaments, and partly by putrefying, it ſhould be very much ſpoilt, and I myſelf mortified. Wherefore I thought proper to try it firſt in ſeparate members of the ſkeleton, in ſome of which it ſucceeded well enough: as in the hands, feet, and joint of the thigh. In others again I met with much more difficulty; as the ribs, and back-bone; but however there were hopes of overcoming theſe obſtacles. Encouraged therefore by the ſucceſs which I met with, about the latter end of the year 1725, happening to meet with a proper ſubject, I prepared a ſkeleton, ſuch as I have mentioned above. But the ligaments being naturally weak, and adhering but looſely to the bones, it required a good deal of ſkill to manage it, ſo as to keep the bones in their proper poſitions. To dry the ligaments, ſo as to render the ſkeleton rigid, was not proper to be done, for fear of disfiguring the conjunctions of ſeveral of the bones, and ſpoiling the cartilaginous cruſts of the joints; nor, if it had been proper, ought it to be attempted, till the ſkeleton was firſt put into ſuch a poſition, as I intended it ſhould be in when the figure was to be taken of it. In order to this then, I proceeded in the following method. As the feet were not able to ſupport the trunk, becauſe they were neither ſtiff, nor could the pelvis reſt firmly enough upon the heads of the oſſa femoris, I determined firſt to ſupport the lower part of the trunk in ſuch a manner, as I could incline it a little which ever way I pleaſed, if there was occaſion for it. For this purpoſe I ordered a tripod to be made, with the feet at a moderate diſtance from one another, and from the top of it, at that part where the feet are joined together, there riſes an iron ſtalk, which ſoon divides into three branches, bended at a moderate diſtance from each other, one of which is ſhorter than the other two, which are of an equal length; but all of them towards the top for the length of a cubit

bended

bended firſt outwards, in order to ſupport whatever is laid upon them; and then upwards, to keep what is laid from falling off. The whole tripod is higher, than to allow the feet of the ſkeleton to reach quite to the bottom of it, and therefore to the table upon which it is placed; while the inferior part of the trunk reſts upon it. This tripod I put upon a low table, whereby the lower part of the ſkeleton, and eſpecially the feet, might more eaſily be drawn; for if I had placed it upon the ground, it would have obliged the ingraver to ſtoop too much, in order to get a right view of thoſe parts. I then placed the lower part of the trunk upon the tripod, ſo as that the cartilaginous conjunction of the oſſa pubis ſhould reſt upon the top of the ſhorteſt branch and the lower parts of the ilia, before the os ſacrum, upon thoſe of the two longeſt; having taken care before to have thoſe branches bent in ſuch a manner as to receive and keep firm theſe parts of the trunk, and that the ſhorteſt branch ſhould be only as much ſhorter than the others, as I chuſed to place the lower part of the conjunction of the oſſa pubis below the lower parts of the ilia, which reſted upon the longer ones. Having laid this firm foundation, the trunk was firſt to be raiſed, together with the neck and head. But I thought proper to begin with the trunk, as being ſtronger and firmer than the neck and head. To this purpoſe then I tied a cord to the upper part of the ſpine, where it is firm and leſs flexible, and pulling it up ſtreight to the ceiling of the room, I paſſed it through a ring which I had fixed into the ceiling, and then faſtened the end of it to a hook which was drove into the wall. By drawing this cord I raiſed the trunk as much as I could, but in ſuch a manner as to let the lower part of it reſt upon the tripod. Afterwards I took another cord and paſſed it under each of the cheek bones, one end of it under the right, and the other under the left, and the middle drawn towards the hind head near the neck, and then tied the two extremities over the head in form of a loop. Then to this loop I tied another cord, which I drew up to the ceiling, as I did the one from the ſpine before, paſſed it through another ring, and faſtened it to a hook. This cord I drew as tight as I could, ſo as not to ſlacken the one that was fixed to the ſpine; and thus both the trunk, neck, and head, were raiſed up, but they could not be made ſo erect as not to decline a little. Therefore having tied ſeveral cords to the trunk, I drew them out in all directions to the walls of the chamber, and faſtened them to hooks which I drove in on purpoſe, and by means of theſe cords, I kept the trunk every where equally firm. But as I had tied the two firſt cords, by which the trunk and head were erected, to the firmeſt part of the trunk, that is the ſpine, ſo I tied the other cords likewiſe to the ſame bone, being the baſis as it were of the trunk, and whoſe motions the ribs follow. The reaſon why I tied them to the upper part of the ſpine was, thereby I might command the whole ſpine the better. And I tied them immediately below the neck, becauſe the back-bone in that part is very firm; for if I had tied them to the neck, as its joints are very moveable, they would have rendered it crooked. The fixing of the trunk being finiſhed in this manner, I proceeded next to that of the arms. To this end I tied a cord round the conjunction of the clavicle with the upper proceſs of the ſcapula, and with that I raiſed it up as much as was requiſite, ſuſpending the whole arm by this means to the ceiling; while by other cords running acroſs,

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I kept the ſcapula firm, ſo as neither to incline too much backwards nor forwards. Having ſecured both the arms firm in this manner, I tied a cord to the lower part of the right radius, and by means of it, kept the whole arm at a proper diſtance from the trunk. Then I tied another cord to the lower part of the left os humeri, and with the help of it I raiſed the left arm up. Another cord I faſtened to the ulna of the left arm, and with that I made the wriſt incline gently downwards. The feet and legs I made firm in the following manner. The right leg I placed ſtreight, ſo as to ſupport the trunk; but as the heel did not touch the table upon which the tripod was placed, I thruſt in a bit of board between it and the table, ſo thick as juſt to make the foot ſtand firm, and at the ſame time not to raiſe the pelvis from the tripod, by puſhing the leg too high up. Then I put under the reſt of the foot boards of an equal thickneſs, ſo as to make it ſtand firm and even. Next I tied a cord round the lower part of the thigh-bone, and faſtening it to the wall backwards, made firm the knee. In much the ſame manner, I fixed the left leg and foot; only the knee was a little bended, the heel lifted up, and it reſted gently upon the extremity of the foot, on that part which is near the root of the great toe. Thus having finiſhed the fixing of the ſkeleton in general, the next thing to be done, was to render the poſition perfect. And this I did partly both by inclining, and raiſing, the pelvis; partly by tightening, and ſlackening, the cords, and increaſing the number of them; and partly by pieces of board, paper, paſteboard, *&c.* which it is not neceſſary to mention in particular. I next looked out for a thin man, of the ſame ſize with my ſkeleton, and making him ſtand naked in the ſame poſition, I compared the ſkeleton with him, eſpecially the hip-bone, ſpine, thorax, ſcapulæ, and clavicles; becauſe if theſe parts were put into proper poſitions, there would not be any great difficulty in the reſt. Having corrected thoſe things which wanted to be corrected, according to the method above explained, I examined the ſkeleton carefully for ſome days after, and by making ſmall alterations, by means of tightening or ſlackening the cords, and otherwiſe, as I ſaw occaſion, I tried whether it could not be ſtill rendered more compleat. And after I had done this, I compared it again with the naked man, that in caſe I had erred through exceſſive carefulneſs, I might then correct it.

As ſoon as I had finiſhed the poſition of the ſkeleton, my next care was to have an exact figure made of it. I foreſaw that the figure would be very incorrect, and diſappoint my deſign, if it was taken off by merely viewing the original, as ingravers commonly do. For it muſt neceſſarily happen, that the ingraver muſt err, and therefore would neither make ſuch a figure of the ſkeleton as I wiſhed for, nor ſuch a one as I could not only hope to be, but abſolutely confide in, as a proper foundation for drawing the muſcles upon. But to meaſure the whole ſkeleton, and mark out the poſition, ſize, and figure of every part, was an infinite taſk, nor could it poſſibly be done without ſome certain infallible rule to direct the ingraver. It was an eaſy matter indeed to confine the view by the help of a certain quadrate, compoſed of four wooden rulers formed into a quadrangle, having the intermediate ſpace

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as large as the ſkeleton, and the whole equally divided into little ſquares, all of the ſame ſize, by means of ſmall cords ſtretched out between. This being placed right before the ſkeleton, and the plate upon which the figure of the ſkeleton was to be drawn, divided by lines, in the ſame manner as the quadrate was by the cords, the ingraver, in order to draw the ſkeleton, was to find out a proper place for viewing it through the quadrate, by means of a fixed hole, and not very large; which by applying his eye to, he could ſee what parts of the ſkeleton anſwered to certain cords of the quadrate, and in what manner; and accordingly make them correſpond with the ſame lines of the plate. But here aroſe another difficulty. For in order that the ingraver might ſee every part of the ſkeleton properly and diſtinctly, it was neceſſary that he ſhould not be at too great a diſtance from it. I wanted however that he ſhould view it at a diſtance little leſs than forty rheniſh feet, as we call them; leſt he ſhould ſee ſeveral of its parts too obliquely. But it was impoſſible at that diſtance to ſee the ſmall parts diſtinctly. Wherefore, that the ingraver might be placed as near the ſkeleton as was neceſſary, and in the mean time have the ſame view of it as at the diſtance of forty feet, excepting the obſcurity occaſioned by that diſtance, I contrived the following method. I placed the quadrate before deſcribed, and which I call the larger one, right before the ſkeleton ſo, as that the cords touched the moſt eminent part of the ſkeleton. Before this, at the diſtance of four feet, I placed another of the ſame kind, only the ſquare ſpaces made leſs; upon which account I call it the leſſer quadrate. Theſe ſpaces I made a tenth part leſs in this than in the other; becauſe the diſtance of four feet was juſt a tenth part of that, which I deſigned it ſhould be viewed at. I placed then theſe quadrates in ſuch a manner, as that the corded part of each ſhould be equally diſtant from each other, that they ſhould ſtand perpendicular, and the cords of the one, correſpond to thoſe of the other, the center of both being oppoſite the middle of the left breaſt of the ſkeleton. Theſe things being thus ordered, the ingraver placing himſelf in the moſt proper ſituation near the ſkeleton, for viewing it, endeavoured to make ſome point where the cords of the leſſer quadrate decuſſated one another, coincide to the eye with the correſpnding decuſſating point in the cords of the greater one; and that part of the ſkeleton which was directly behind theſe points, he drew upon his plate, at the point of decuſſation of the lines of it, correſponding with the decuſſating points of the quadrates; for I had divided the plate into ſquares by croſs and ſtreight lines, as I had divided the larger quadrate by cords. And in this manner proceeding through all the decuſſating points of the cords, behind which any part of the ſkeleton was obſerved, he drew the parts of the ſkeleton marked by theſe at the correſponding decuſſating points of the lines of the plate. Afterwards he could continue in the plate thoſe parts of the ſkeleton which intervened between the points, ſo as upon account of the ſmallneſs of the ſpaces not to err remarkably, at leaſt not ſo much as to deſerve to be cenſured. According to this method then (which as it anſwered the intention, ſo it occa-

ſioned an incredible deal of trouble to the ingraver) a fore view of the ſkeleton was firſt drawn as it ſtood. It was drawn then with the ligaments keeping the joints tight. Afterwards the ligaments being ſo far cut, and the joints ſo far opened, as was neceſſary for viewing the articulations of the bones, the ingraver added theſe to the figure. Then having untied the little cords which kept firm the ſkeleton, as well as the two ropes by which it was kept erect, one of them going from the upper part of the ſpine, and the other from the head, to be faſtened to the ceiling, I turned it about together with the tripod, ſo as to have the back part of it drawn; which was done in the ſame manner as the other. The ligaments of the joints I cut, ſo, as that although they were divided in the fore part, yet they were ſufficiently entire to keep the joints together, and to preſerve the ſkeleton in a proper order, till a ſide view was taken of it; and this was done the ſame way as the other two, as ſoon as the back view was finiſhed.

In the mean time, while theſe three figures of the ſkeleton were drawing, though the greateſt application poſſible was given, as they could not be finiſhed in leſs than three months, it was neceſſary to take care, that the ſkeleton ſhould not ſuffer from drying or putrefaction, nor we hindered from going on from the ſame cauſes. Sometimes then, when it dried too much, I moiſtened it with water, and cutting the ligaments, poured it into the joints, in order to preſerve the cartilaginous cruſts; and again, when the putrefaction was to be checked, I ſprinkled it with vinegar; wrapped it up in the night time with paper, and cloths dipped in the ſame liquor; and poured ſome of the ſame wherever there was room for it. During the time that the firſt figure was taking off, a hard froſt coming on, the whole ſkeleton was frozen, which was the beſt thing that could happen both for keeping it firm, and preventing the putrefaction. And if that figure could have been finiſhed before the thaw came, upon untying the cords, I could eaſily have turned the ſkeleton, quite rigid with the froſt, in order to the drawing of the ſecond figure. But the thaw coming on ſooner than I could have wiſhed, it both began ſooner to ſpoil, and gave me a great deal of more trouble. It was hurt likewiſe by the fire, which we were obliged to have always when the naked man ſtood; for he neither could nor would ſtand without it.

In theſe three figures, the poſture of the ſkeleton, together with the poſition and connexion of all the bones, were accurately expreſſed; but their figure and outward appearance only in general. For the remains of the ligaments were an obſtruction to this, beſides other things which the bones could not eaſily be cleared from. And indeed though they could have been perfectly cleared, it would not have been well judged to have taken up the time in doing it, eſpecially as they would have required a great deal, and I could do it afterwards at my leiſure, and have figures taken of them. Having then taken down the ſkeleton, my next taſk was

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to clean the bones very neatly, ſo as that nothing about them might be ſpoiled. After I had cleaned them, I deferred having the figures of the ſkeleton finiſhed from them, till I had figures of each of them ingraved ſeparately of the natural ſize. I put it off upon this account too, that, by making of theſe figures, the ingraver might prepare himſelf for drawing the others, when I had a mind to have them done. Having finiſhed theſe, I returned again to the figures of the ſkeleton in the year thirty-three. The firſt thing I took care of was, to reduce them from the natural ſize to that which you ſee in the cuts. Then the ingraver, having examined all the bones in that poſition in which they ſtood in the figures, ſupplied whatever he found deficient in the figures, and amended whatever he thought done with leſs accuracy. And now I began to be confirmed in my deſign of publiſhing, which was my chief intention in taking ſo much pains about thoſe figures, provided they all anſwered to my mind; and I was deſirous to have them ingraved, as I hoped it would make them appear ſtill more elegant. They were ingraved, and chiefly after the bones themſelves, that ſo they might be both more perfect and neat.

THEY ſhew the ſkeleton ſtanding in an erect poſture, and proper attitude. The limbs I have put into ſuch attitudes and poſitions, as that the order and connexion of both the bones and muſcles may in general appear to the moſt advantage; and, if I was to proceed, even the bowels themſelves, as alſo the arteries, veins, nerves, &c. The poſture of the firſt and ſecond is the ſame; the firſt repreſenting a fore view of the ſkeleton, and the ſecond a hind one. Theſe two figures anſwer to each other; by which means you have a view all round the ſkeleton. The third figure is added to give a fuller view of the ſide; upon which account the poſture of this is different from that of the others. But, with regard to the poſtures of each, the following particulars are to be taken notice of: the ſkeleton in the firſt and ſecond figures ſtands firm upon the right foot, reſting but very gently upon the left. The right foot reſts upon the heel, and upon the anterior heads of all the bones of the metatarſus, eſpecially of that which belongs to the great toe, the ſeſamoid bones in the mean time intervening. The toes are bended downwards, as it were to catch hold of the ground; and by this it ſtands the firmer. The extremity of the foot is turned outwards, as it naturally is in that poſture, when the foot ſtands moſt firm. The right knee is ſtrait. The patella reſts upon the hollow in the middle between the condyles of the femur, in the ſame ſituation as it naturally has when the knee is ſtrait, and itſelf pulled up by the rectus, vaſti, and crureous muſcles. The leg is inclined a little outwards over the extremity of the foot, the joint of the ankle, with the heel-bone, being a little bended. Hence the extremity of the foot reſts full upon the ground, and the heel is in the ſame perpendicular line with the head; by which means the poſition is rendered more firm. This is likewiſe aſſiſted by the thigh-bone being gently inclined the ſame way; and at the ſame time correſponding with the tibia

in ſuch a manner as to form a kind of angle with it, but a very obtuſe one, and obtuſe at that part mentioned above. The left foot, which is turned from the right ſideways, and a little forwards, reſts only, and very gently, upon the anterior head of the metatarſal bone of the great toe, by means of the ſeſamoid bones. The left knee is moderately bent, and the patella is ſituated in the hollow made for it between the condyles of the femur. Thus the right foot alone ſuſtains the weight of the pelvis, which is ſituated obliquely, the left ſide being loweſt, becauſe the left foot is turned farther out than the right, and yet touches the ground. And becauſe the left foot is likewiſe ſtretched a little forwards, ſo the left ſide of the pelvis is inclined forwards likewiſe a little more than the right. The trunk above the pelvis is turned towards the right, juſt enough to keep up the equilibrium. The whole ſpine then is bended towards the right. It is likewiſe twiſted as it were a very little towards the left, excepting only the neck; ſo that though the left ſide of the pelvis is inclined a little more forwards than the right, yet the thorax may nevertheleſs be directed ſtrait forwards. The neck on the contrary is turned towards the right, and the atlas with the head inclined the ſame way, as much as was neceſſary to give the face a gentle direction to that ſide. Further, the poſition of the pelvis is ſuch, as that the whole upper brim is placed obliquely, chiefly indeed upwards, but likewiſe remarkably forwards. Wherefore the os ſacrum deſcending from the loins is directed a little backwards, and from it the coccyx is inclined forwards, and bended the ſame way. The loins above the os ſacrum are firſt remarkably crooked, then preſently become ſtraiter, incline gently backwards, and are hollow towards the back part; by which means they ſupport the thorax the better. The ſpine of the back, inclining likewiſe backwards, is gently bended at its upper part, but contrary from that of the loins; and hence the thorax is prevented from inclining too much forwards. The neck riſes from the back moderately bended, and ſupports the head ſo, as that the face may be ſufficiently prominent forwards. The thorax with the ſpine is bended a little to the right. Hence the ribs on the right ſide are placed nigher together; the upper ones inclined a little downwards, and the lower ones upwards. On the other hand, thoſe on the left ſide are at a greater diſtance from one another; the upper ones inclining upwards, and the lower ones downwards. Wherefore the thorax externally according to its whole length is prominent on the left ſide; and in the right, below the middle, moderately hollow. Hence the lower ribs of the right ſide, by being more erect, have their anterior extremities more diſtant from the ſpine than thoſe of the left. The right arm is almoſt pendulous, only a very little raiſed; whereby the poſition of the ſcapula is ſtrait, and that of the clavicle almoſt quite tranſverſe. But the ſcapula is preſſed a little backwards, and together with it the clavicle, where it ſupports the ſcapula; by which means the cheſt is more openly expoſed. The left arm again is raiſed up higher; whereby the clavicle, at that part upon which the upper proceſs of

of the ſcapula reſts, riſes up together with that bone; and the ſcapula is a little turned, in ſuch a manner, as that its lower angle is directed to the left ſide. The right elbow is ſtreight, as alſo the radius and ulna; and the hand on the ſame ſide hangs open. The left elbow again is a little bent, the radius turned round the ulna as much as poſſible, and the hand turned with it. So much for the poſtures of the firſt and ſecond figures.

In the third table the figure is in a walking poſition. This likewiſe ſtands on the right foot, the left only touching the ground with the extremity of the great toe; upon which account it is a little bended upwards, as in walking, when we want to bring the hind foot forwards. Farther, the right foot reſts upon the heel, and the anterior extremity of the metatarſal bone of the great toe, by means of the intervening ſeſamoid bones; and upon theſe it chiefly ſtands, as alſo upon the anterior extremities of the metatarſal bones of the little toes. The right knee is ſtreight, like that of the firſt figure, with the patella raiſed up in the ſame manner, and for the ſame reaſon, ſo as its lower part only reſts upon the hollow between the condyles of the femur, and its upper part upon the thigh-bone above that hollow. The left knee is a little bent; and therefore the patella of this reſts with its upper part in the hollow between the condyles. Hence its point is directed towards that eminence of the tibia, to which the ligament that goes to the patella is inſerted. The pelvis, the ſame way as in the firſt and ſecond figures, is ſupported entirely upon the right foot; and the left ſide of it is lower than the other. The ſpine above the pelvis is turned a little to the right ſide; whereby the thorax in its fore part is ſomewhat inclined the ſame way. The poſition of the face is more direct; both becauſe the neck is more bended forwards, and beſides the atlas with the head is turned conſiderably that way. The upper brim of the pelvis is directed upwards and forwards, the ſame as in the other figures; and the os coccygis with the lower part of the ſacrum bended forwards. The loins immediately above the os ſacrum are remarkably crooked, but preſently become ſtreighter, are gently inclined backwards, and hollow on the back part. The back-bone above the loins inclines alſo backwards, is gently bended at top, and hollow on the fore part. Above this riſes the neck, bended a little forwards. The left arm is lifted up, whereby the ſcapula is ſomewhat turned, ſo that its upper part is directed a little backwards, and its lower angle forwards. But as the right arm hangs down, and is likewiſe turned backwards, hence the baſis of the right ſcapula is kept at ſome diſtance from the ribs, eſpecially at its lower angle. But I have explained the poſition of the figures ſufficiently; for what remains in all of them may eaſily be underſtood only by viewing them. All the joints are large, and very well adapted, their cartilaginous cruſts having been carefully preſerved.

I proceed next to explain what ſort of ſkeleton I made uſe of, to have the figures taken from. I choſe it of that age in which the bones

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are arrived at their full growth and firmneſs; that is, when the epiphyſes are plainly continued into the bones, of which they are a part; nor can the bones be ſaid to be compleat before. It was of the male ſex, of a middle ſtature, and very well proportioned; of the moſt perfect kind, without any blemiſh or deformity, either as to the bones themſelves, or their connexions with one another. And as ſkeletons differ from one another, not only as to the age, ſex, ſtature, and perfection of the bones, but likewiſe in the marks of ſtrength, beauty, and make of the whole; I made choice of one that might diſcover ſigns both of ſtrength and agility; the whole of it elegant, and at the ſame time not too delicate; ſo as neither to ſhew a juvenile or feminine roundneſs and ſlenderneſs, nor on the contrary an unpoliſhed roughneſs and clumſineſs; in ſhort, all the parts of it beautiful and pleaſing to the eye. For as I wanted to ſhew an example of nature, I choſe to take it from the beſt pattern of nature. But as even thoſe ſkeletons, which may be reckoned the beſt, are different from one another, and I intended only to exhibit one of them; I propoſed that that one ſhould be an example for the others. And I cannot help congratulating my good fortune in this reſpect, for happening upon a body, which as it promiſed, ſo likewiſe it contained ſuch a ſkeleton as I wanted. Yet however it was not altogether ſo perfect, but ſomething occurred in it leſs compleat than one could wiſh. As therefore painters, when they draw a handſome face, if there happens to be any blemiſh in it, mend it in the picture, thereby to render the likeneſs the more beautiful; ſo thoſe things which were leſs perfect, were mended in the figures, and were done in ſuch a manner as to exhibit more perfect patterns; care being taken at the ſame time that they ſhould be altogether juſt. This then is the manner and hiſtory of the figures of the ſkeleton. From which, I think, it may eaſily be underſtood, that by this method it is poſſible to expreſs the perfection of nature, at leaſt to come very near it: but it is not poſſible to produce any ſkeleton ſo perfect as theſe figures repreſent; at leaſt, it is plain that it cannot be done ſo eaſily. For where is the anatomiſt, who, after having cleaned the bones perfectly well, and conſequently has cleared away all the ligaments with which they are connected, and partly covered, preſerving at the ſame time the cartilaginous cruſts of the joints, can propoſe to join them together again in ſuch a manner, as that the whole ſhall be perfectly juſt and elegant?

After theſe figures were drawn, I farther intended, as ſoon as they ſhould be ingraved, to add the muſcles to them; and, puſhed on both by a love of the work, and an earneſt inclination to improve Anatomy, to try if I could perfect what I had conceived in my mind. Neither did I ſet out upon this unprovided. And indeed, as there is a great number of muſcles intimately blended with other parts of the body; and as a great many difficulties muſt frequently occur, if you want to examine them all, not ſuperficially, but fully and accurately; as they differ greatly and frequently from one another in different bodies; as very few bodies are proper ſubjects for one who is in ſearch of the moſt perfect in its kind; while

while at the ſame time it was requiſite that the ingraving ſhould be retarded as little as poſſible: therefore it was abſolutely neceſſary, to provide every thing for the work that I poſſibly could. From the time then that the firſt draughts of the ſkeleton were taken off, every year, with the conſent of my pupils, and whenever an opportunity offered beſides, I traced the muſcles carefully, in order to obſerve their poſition, connexion, figure, thickneſs, and ſubſtance. And, according as more and more bodies occurred, either confirmed what I had before obſerved, or added whatever I found to be different. In this manner I proceeded every year. And as it is always better to preſent things to the view, if poſſible, than to truſt to deſcriptions of them, I was at pains to preſerve all of them I could, in order that I might be aſſiſted by them afterwards. I took care eſpecially to preſerve in a proper liquor, that they might receive no damage, the bones and other parts to which the muſcles are connected, whether they are ſaid to ariſe from, or be inſerted into them, together with the extremities of theſe muſcles joined to them, and theſe all picked from the beſt ſubjects, which therefore I could conſult whenever there was occaſion. And as I had now a great number of ſcattered obſervations, I began to digeſt them, that I might have every thing in readineſs. Which being done, I intended to compoſe from them a hiſtory of the muſcles, making choice chiefly of thoſe which I found the moſt frequently, and which I thought anſwered moſt the intention of nature. And though I deſigned to inſert nothing into that hiſtory, but what the book of nature preſented to me, yet I thought it would be of ſervice to conſult the books of anatomiſts, and not only thoſe of the beſt, but likewiſe of others which I could purchaſe; that I might be informed if I had paſſed over any thing, which was remarked by them, worthy to be taken notice of. And even ſince that ſyſtem of myology has been publiſhed, I have not neglected to add whatever improvements diſſections have ſince ſuggeſted to me.

Thus prepared, and with firmer reſolution, and more ſanguine hope, I began to add the muſcles to the figures of the ſkeleton in the year thirty-eight. For this purpoſe it was proper to uſe the out-line figures only; for thoſe which were ingraved were not ſo fit, upon account of the ſhades rendering obſcure whatever ſhould be added. But here I obſerved a fault in making the plates of the ſkeleton, which ought to be prevented. Ingravers, in order to take off a figure done upon paper, and ingrave it upon a copper-plate, firſt of all dawb the oppoſite ſide of the paper with powder of ceruſs, then they lay that ſide of it carefully upon the plate, fitting it to it according as the poſition of the figure requires, and then they faſten it. Afterwards by drawing a needle along the lines of the figure, and impreſſing them gently, and juſt enough upon the plate, they order it ſo, that when the paper is removed, the lines appear upon the plate, by the impreſſion made in the ceruſs. But after the figure is finiſhed, when the plate is ingraved, it happens that what was repreſented

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on the right, in the figure upon the paper, is ingraved on the left upon the plate, and *vice versâ*. If therefore any certain order of the muſcles ſhould be added to the out-line figures of the ſkeleton ingraved upon paper, and theſe again laid upon a copper-plate in order to be ingraved, according to the method above-mentioned; the right and left orders of the muſcles would not anſwer to the right and left ſides of the ſkeleton. This was eaſily corrected by ingraving the out-line figure of the ſkeleton upon a plate, in the uſual way, and then having taken an impreſſion of it upon paper (which I ſhall call the original) taking an impreſſion of this upon another paper, ſo as to have a figure directly contrary to the other with reſpect to the ſides, or right and left; and ſo uſing this contrary one (which I ſhall call the copy) to draw the muſcles upon; and theſe being drawn, it was laid upon the copper-plate, and ſo ingraved; and thus the figure which was caſt off from this plate, was contrary to the copy, and therefore anſwered to the original, which was wanted. But here I was retarded by another obſtacle. In order that the figures may be well ingraved, it is neceſſary that the paper ſhould be ſufficiently macerated. But when the ſheets thus wetted, *viz.* the original and the copy, are put into the preſs together, it happens that being ſqueezed between two cylinders (which kind of preſs the ingravers always make uſe of) they are not only preſſed, but likewiſe extended; by which means the figures are rendered ſo much larger, that when the ſheets are afterwards dried, they do not contract to their juſt dimenſions. Wherefore, if I had uſed ſuch copies of the ſkeleton to draw the muſcles upon, the figures of the muſcles would have been too large in proportion to thoſe of the ſkeleton. To prevent this, I ordered dry paper to be uſed both for the originals, and for the copies; by which means they were indeed faintly and imperfectly ingraved, eſpecially the copies, but however not ſo much, but they anſwered my purpoſe. But before I obſerved that fault of the copies which were ingraved upon wet paper, the ſecond claſſes of the muſcles were added to a copy of that kind of the figure of the ſkeleton; and hence it happens, that the out-line figures of the poſterior layers of the muſcles are rather ſomewhat larger than they ought to be. But this I could well enough diſpenſe with in theſe figures, ſeeing they were only ingraved for the ſake of the others which are ſhaded, and ſhew nothing but the bare out-lines together with the marks. But I corrected it in the ſhaded figures before they were ingraved; for theſe were all ingraved after the others, and all the out-line figures were tranſpoſed upon the copper-plates, which the ſhaded figures belonging to them were to be ingraved upon. And I corrected it in this manner. I took care that the paper made uſe of for the originals of the out-line figures, upon which the poſterior layers of the muſcles were to be ingraved, ſhould be dry: but that uſed for the copies I ordered to be wetted. By this means the paper of the original figure, which was dry, was not extended by the force of the preſs, and therefore the ſize of the copy immediately after it was ingraved, as well as that of the original, was the

ſame

ſame with the ſize of the figure upon the copper-plate, with which the original was ſtamped. But the paper of the copy being wetted, contracted itſelf upon drying, and conſequently the figure which was ſtamped upon it. Wherefore, by repeated experiments, I found at laſt what maceration was exactly ſufficient for the paper upon which the copies were to be ingraved, ſo that, after they were caſt off, it ſhould contract itſelf juſt enough to render the figure of a proper dimenſion. And theſe copies which I had corrected after this manner, I made uſe of for the poſterior claſſes of the muſcles, which were to be tranſpoſed upon the copper-plates for ingraving the ſhaded figures. Hence however I know, that when the cuts were quite ingraved, and ready to be publiſhed, though the figures in all the copper-plates were of an equal ſize, it was ſcarce poſſible but in the cuts they muſt be more or leſs inequal: for as the paper upon which they are ingraved is of a looſer or firmer texture, and as it is more or leſs ſoftened by means of the maceration, ſo it contracts itſelf more or leſs after it is dried.

THE muſcles appear connected to the out-line copies of the ſkeleton, in the ſame manner as they are to the ſkeleton in the dead ſubject. And likewiſe the other parts to which muſcles belong, as well as to the ſkeleton; as the os hyoides, the larynx, the tongue, *&c.* are connected the ſame way to the figures of the ſkeleton, and the muſcles connected to them again. At the ſame time I added the hiſtory of the muſcles, together with remarks, which were ſubjoined after it was publiſhed; having recourſe every now and then to thoſe obſervations above mentioned, which I had formerly put in writing, concerning the muſcles. Nor was there any thing taken but from bodies themſelves. And wherever they manifeſtly and remarkably differed from what I had more frequently obſerved in others, thoſe things were ſupplied from other bodies. And as this ſucceeded according to my mind, though it retarded the work, there aroſe a new difficulty. It was downright impoſſible for me to draw the figures of moſt part of the muſcles from one and the ſame body, and far leſs thoſe of them all: on the contrary it was very evident, that it would require ſome years, and a great many bodies muſt be made uſe of for the purpoſe. It is very true, that the muſcles of any of theſe bodies might well enough be adapted to the figures of the ſkeleton; but as ſome bodies are more brawny or fleſhy than others, nor could I hope having it in my power to get the others exactly like the firſt, it was a hard matter to contrive how muſcles taken from ſubjects differing in that reſpect, and compared with one another, ſhould be modified into a proper equality, and proportion with one another. This could not poſſibly be effected by means of the ſkeleton only. Therefore, beſides it, there was ſome other certain ſtandard to be found out; for to depend upon the judgment alone, was neither quite ſafe, nor did I at all approve of it. The chief thing to be done was to look out for large and thick muſcles, eſpecially for thoſe of the trunk and neck, and moſt of all,

the extremities. I endeavoured then all I could to draw the external claſs of the muſcles of the trunk, neck, and extremities, all from the firſt body, within which were to be placed thoſe taken from other bodies, at the ſame time adapted to the figure of the ſkeleton; and theſe too I took from bodies as like the firſt as poſſible. But, in drawing the external claſſes of the muſcles, it was difficult to find out the proper poſition of them with reſpect to the ſkeleton, becauſe the moſt part of the ſkeleton was covered by them. Although then a great deal of care was taken, yet afterwards, as the inner claſſes, by the ſkeleton's being more expoſed in them, ſhewed what was to be done, the external claſſes were to be corrected. For to connect the muſcles accurately with the figures of the ſkeleton, I muſt have done them all ſeparately, and if ſo, I could not eaſily have placed them in proper order with one another. In order to this, it was proper to begin with the external, which upon doing I found very difficult, as I juſt now mentioned, to place them juſtly with reſpect to the ſkeleton, which was almoſt quite covered with them; and it was likewiſe no eaſy matter to draw thoſe properly, which lie in a great meaſure concealed under others. Both theſe difficulties were then got over, by beginning with the external claſs firſt, and ſo proceeding from that to the more internal, and again afterwards correcting the external, according as the internal ſhewed what was to be done.

GREAT care was taken in raiſing and expoſing the muſcles, that they ſhould not be ſpoiled. In order to prevent this, I uſed bodies that were fattiſh, whenever ſuch were requiſite, in which the muſcles are preſerved by the fat; and of this I took away no more than was quite neceſſary, that a right view might be had of the part that was to be drawn, leaving the reſt untouched, to preſerve the muſcles not diſſected. In many parts it was neceſſary to trace and draw the muſcles at the ſame time, eſpecially thoſe, which if I had attempted to diſſect and expoſe entirely, it would have been a very difficult matter, and next to impoſſible, to have kept them from ſpoiling: and I was frequently obliged to call in other helps beſides. Thus, in order to draw the coracohyoïdeus muſcle, which is the thirty-fifth figure of the eleventh table, I firſt laid bare the external part, and drew it, then afterwards the internal part of the beginning of it; to expoſe which diſtinctly, I diſſected away the fat exceeding clean, without hurting the muſcle, leaving only what was neceſſary to keep it from ſhrinking, and at the ſame time could not obſtruct the figure. The concave and convex ſides of the diaphragm, as they are repreſented in tables fourth, and fourteenth, cannot be ſeen both at one time in the body. For to have a view of the concave ſide, the abdominal viſcera, which obſtruct it, muſt be removed; and for the convex again, the thorax muſt be laid open. But if you open the thorax, after having taken out the abdominal viſcera, or the abdomen, having firſt emptied the thorax; in either caſe, the diaphragm becomes flaccid, and its figure is ſpoiled. Wherefore, having emptied the abdomen of its contents,

contents, I firſt expoſed the convex ſide of the diaphragm, and, as ſoon as that was drawn, I put them all in again, in order to ſupport it; and then opening the thorax, I added the convex part of the figure; to finiſh which I made uſe of another body, the thorax of which I opened firſt, keeping the belly entire, whence the diaphragm was ſupported by the abdominal viſcera. There were a great many other muſcles very troubleſome to repreſent right; as thoſe of the anus, and eſpecially thoſe of the pharynx, palate, uvula, and face. However, by means of contrivances of this kind, there are a great many things, if I am not miſtaken, very juſtly repreſented; ſome of which can very hardly, and others not at all, be expoſed ſo plain in bodies themſelves. But it would take up too long a time to diſcover, what and how many methods I made uſe of, to have every thing repreſented as perfect and diſtinct as poſſible.

The bodies which I uſed were thoſe of adults, and ſuch of them only as were moſt proper for the purpoſe. The muſcles again were ſuch as moſt frequently occur; only I picked out thoſe that I judged the moſt perfect, and in beſt condition. But it would be an endleſs taſk to trace all thoſe differences which appear in different bodies, in the ſame manner as the features. And although, paſſing over all trifling varieties, I had only taken notice of ſuch as are remarkable, I ſhould have found it no eaſy matter to come to a cloſe. Neither was it proper to inſert many of theſe into a general ſyſtem of the muſcles, although they were even remarkable, and frequently occurred. Some of them however are inſerted. There are a few muſcles inſerted which rarely occur, as the pſoas parvus; and likewiſe a muſcle of the bladder, which I have very ſeldom ſeen. And altho' I have endeavoured to examine all the muſcles fully and accurately, and likewiſe to have them expreſſed in the ſame manner; yet I have neglected ſome circumſtances which appeared leſs material. For example, there are ſome muſcles a little tendinous at their beginning, or extremity, which do not appear ſo in the figures. Neither are there certain fiſſures expreſſed, through which the ſmaller arteries, veins, and nerves penetrate, together with other things of the ſame nature, which partly did not ſeem to be of any great conſequence, and partly would render more or leſs obſcure the figure, and general ſymmetry of the muſcles; beſides that, I thought them leſs agreeable to that ſimplicity which I endeavoured after. And certainly it is proper in things of that nature, when reaſon requires it, always to confine ourſelves to certain bounds, not to be treſpaſſed. Here the ſituation, figure, ſize, origin, inſertion, coheſion, fleſhy and tendinous nature, and the general courſe of the fibres, to which their direction might be referred, were the chief circumſtances to be taken into conſideration about the muſcles.

There are two kinds of tables, in which I have comprehended the whole work. The one contains the general connexion and diſpoſition of the muſcles all over the body; the other again contains the figures of

each of them. The firſt, the ſame as the ſkeleton, gives a fore, a back, and a ſide view of the whole. And it exhibits the muſcles according to their different claſſes: firſt the moſt external, then thoſe next below, and ſo forth; and the following is always a continuation of the preceding. But as the fore and back views of the body are always the fulleſt, and by comparing theſe two together, you can generally gueſs the ſides; therefore the different claſſes are exhibited before and behind. To theſe however I added the external claſs of the ſide, that it might appear fuller and more diſtinct, than can be conceived from comparing the fore and back parts together; and this the poſition of the muſcles ſeemed to require. This one at firſt I thought would be ſufficient, as from it the general diſpoſition of the muſcles there might be well enough underſtood; eſpecially if the claſſes on the fore and back parts were compared, beſides the figures of the ſingle muſcles, if occaſion required. But as ſome of thoſe which are ſituated in the neck, and under the head, could not be better expoſed, neither from before nor behind, nor in any other poſition; therefore there are ſome claſſes exhibited laterally. For the ſame reaſon I have added views of the muſcles in the ſole of the foot, and in the cavity of the orbit. But as according to the various ſituation and poſition of the parts, and the different view of them, the order of the muſcles is really different, or appears to be ſo, and of this there is an infinite deal of variety; ſo the figures may be multiplied to an infinite number. But I have made choice of that poſition which I thought the moſt proper. And as it is impoſſible to hit upon one where there is not ſome part or other leſs conſpicuous, I choſe that in which the muſcles in general are moſt expoſed. And of this ſort there might ſtill be a great many more figures. But as thoſe few which I have given, are, in my opinion, ſufficient to ſhew the order of the muſcles in general; and whatever more is required can eaſily be ſupplied by comparing the general figures with thoſe of the ſingle muſcles, therefore I thought it needleſs to add any more. Beſides, I avoided too great a number, for fear of confuſion. And it was much more difficult to reduce the muſcles in general to a few orders, with perſpicuity, than the multiplying of thoſe could poſſibly have been. But as in thoſe general figures it is impoſſible that the whole muſcles ſhould appear, excepting a very few, it was neceſſary to add compleat figures of each of them. And if I had multiplied the general figures ſo, as that there ſhould not be a muſcle in the whole body, that could not be found at full length in one or other of them; yet they could not all of them be known ſo diſtinctly, at leaſt not ſo eaſily and readily, from thoſe figures, as they are from the figures of the ſingle muſcles, in which the proximity of other muſcles occaſions no obſcurity. Further, the general figures ought not to be large, in order that they may be peruſed at one view, and therefore ſcarce larger than they are in thoſe tables; for it is poſſible for them to be too large to be conveniently inſpected. This ſize was proper for ſufficiently expreſſing moſt part of the muſcles, even the ſmall ones amongſt them,

them, as far as regards their general order and diſpoſition. The larger muſcles again, and even a great many of the ſmall ones, might be plainly enough expreſſed in the ſame ſize, ſo as to be traced each of them diſtinctly; but there were ſeveral which could not, either on account of their ſmallneſs, or their ſituation with regard to the neighbouring ones. The light and ſhade too in the general ones could not ſo eaſily be expreſſed with ſimple lines, which are fitter for pointing out the courſe of the fibres, and with which the figures of the ſingle muſcles are drawn, as they are with decuſſated lines. It remained then that I ſhould reduce the general figures to as few claſſes as poſſible, and make them as perfect as I poſſibly could; and, beſides them, exhibit the ſingle muſcles ſeparately.

In drawing the figures of the ſingle muſcles, I have followed the general ones wherever I could. And this I did, that the former might aſſiſt the latter, and make them be underſtood; as well thoſe things which, on account of the contiguous or incumbent parts, are either leſs compleat in the general ones, or plainly not conſpicuous, as thoſe which could not be ſo well expreſſed in them. By this means too the whole is better connected. But where the poſition which I borrowed from the general figures was not ſufficient, I have added others in another poſition, ſuch as I thought proper. There are ſome muſcles in the general figures, whoſe poſition is not ſo proper as I could wiſh, and ſome, no part of which can be made to appear in the moſt proper poſition. I could have multiplied the number of figures indeed, if I had wanted to exhibit every part of each of them, *viz.* externally, internally, and laterally, as there ſhould be occaſion. But I imagined it was better to take a little liberty here, and only exhibit thoſe parts of them, which beſt anſwered the intention of this work. The figures of the ſingle muſcles are drawn twice as large as thoſe of the general tables; by which means they are rendered fitter for expreſſing every thing more fully and accurately, eſpecially thoſe which are only ſmall. And although the large muſcles did not require that, yet I have obſerved the ſame rule in them, that ſo there might be the ſame proportion in all. But thoſe muſcles which belong to the internal ear, being ſo very ſmall, are expreſſed in the natural ſize. They are all likewiſe figures of entire muſcles; except a few of maimed ones, which were obliged to be added, in order expoſe to view ſome things remarkable. But as to their compoſition, and thoſe appearances which their internal ſtructure exhibits to our view, I did not think proper to inſert any thing in this volume, which is already ſwelled to a ſufficient bulk.

I have not only ſtudied the correctneſs of the figures, but likewiſe the neatneſs and elegancy of them. For this end I employed an artiſt very ſkilful, both in drawing and ingraving. And he happened to be one, which is very ſeldom the caſe, who was very fond of doing things in that way; which diſpoſition I encouraged, by giving him whatever he demanded for his trouble. For a great many years by-paſt, he has worked for

for very few beſides myſelf; and for theſe laſt ten (moſt part of which he has been wholly employed in theſe tables) almoſt for me only. And he both drew and ingraved them all by my direction. In the firſt place I endeavoured to make him underſtand, as well as poſſible, what was to be drawn; and I was conſtantly with him, to direct him how every thing was to be done, aſſiſting him in the drawing, and correcting what was drawn. And thus he was inſtructed, directed, and as entirely ruled by me, as if he was a tool in my hands, and I made the figures myſelf. Afterwards too, when he came to ingrave them, there was a great deal of care required, leſt any thing ſhould be done amiſs in taking off the figures upon the copper-plate; and frequently I had to adviſe him in what manner the parts were to be ingraved. And when after all theſe pains he happened to go wrong, I examined the figures after they were ingraved, and what faults I obſerved he rubbed out, and corrected very exactly. For the chief care was, to expreſs every thing as correctly and diſtinctly as poſſible. The ingraver beſides employed all his art, both in the out-lines of the figures, in the light and ſhades, in the ſymmetry of the parts, and in their different appearance. He ſtudied dignity in the out-lines, diſtinctneſs, force, grace, and harmony in the light and ſhades, ſo that every thing might appear full and diſtinct; and at the ſame time the whole figure, though compoſed of ſeveral parts joined together, might no where be interrupted, further than nature has obſerved in thoſe parts; in the ſymmetry, a certain harmony and equality, which ought to diſcover itſelf amongſt all the different parts; and in the outward appearance, the diſtinction and difference between bone, fleſh, tendon, cartilage, *&c.* in ſhort, in the whole figures the greateſt perfection. To the general figures he has had added ornaments, not only to fill up the empty ſpaces of the tables, and make them appear more agreeable; but likewiſe that by the ſhading of thoſe ornaments upon the margins of the tables, the light and ſhades of the figures might be preſerved, and heightened, and the figures themſelves appear more raiſed or rounded; and though they are compoſed of ſeveral parts, and thereby conſequently muſt be interrupted, that nevertheleſs they might ſeem to be entire. This required a conſiderable deal of ſkill; and though it was not eaſily done in any of the other tables, it was ſtill more difficult in thoſe of the ſkeleton. But whoever wants to examine how this is executed, will know it beſt by looking at the tables, at a proper diſtance, through his hand placed before the eye in the manner of a ſpy-glaſs, ſo that the ſurrounding light may not hinder the viewing them diſtinctly. And, I hope, to a perſon who obſerves them attentively, theſe ornaments will be found to have no bad effect, in making him diſcover leſs readily what is expreſſed in the figures themſelves.

In order therefore that the beauty of the figures might not be hurt, it was proper not to add any marks to them, by which the ſeveral parts ſhould be pointed out in the text. For beſides that they would have beſpotted

ſpotted the figures, ſo to ſpeak, they would have obſcured ſeveral things, and obliterated not a few, ſeeing many things are ſo ſmall, that theſe marks would have covered them entirely, or almoſt ſo. Beſides, of thoſe of them which were to have been placed in the ſhades, the moſt part could not eaſily have been diſcerned, and ſeveral of them hardly at all. For this there is found a remedy, by adding the out-line figures, and putting the marks to them: which has this advantage, that in the out-line figures the bounds and terminations of the different parts are very readily diſtinguiſhed; and therefore they remove any doubt which might ariſe in the ſhaded ones, either from the ſmallneſs of the part, or the manner of the ſhades, or the ingraving, which cannot be prevented. But theſe marks are added to the figures of the ſingle muſcles, becauſe they ſhew them almoſt all ſingly, and of larger dimenſions, and themſelves are engraved all in one line; they could likewiſe be eaſily added, and eaſily diſcerned. Neither do they hurt thoſe figures ſo much, ſeeing it was not neceſſary to be at ſo much pains about them. Beſides, the bones, and other parts which are exhibited with the muſcles, whereby you may know with what parts they are contiguous and connected, are only expreſſed in out-lines, not only becauſe that was ſufficient for the purpoſe, but that thereby the whole bodies, and terminations of the muſcles, might appear the plainer. Neither are the muſcles themſelves, in theſe figures, drawn with leſs art than in the others, whether as to their limits, the light and ſhades, or the diſtinction of their tendinous and fleſhy fibres. The manner too of ingraving is different in theſe, and they have this to recommend them, that they are expreſſed in ſimple lines, without any croſs ones; which ſimplicity was made uſe of, in order to point out the courſe of the fibres more diſtinctly. But this is only expreſſed in general; neither did I think it neceſſary to purſue the fibres minutely, and ſhew how they are compounded. For beſides that this could only be done juſtly in part, I was of opinion, that the exact courſe of the fibres was rather to be looked for in the general ſyſtem of figures.

For adding the marks I employed a ſkilful engraver, who could do it with judgment; ſo as to put them in their proper places as exactly as poſſible, and anſwer both in ſize and fulneſs to thoſe figures to which they were to be annexed; whereby they might both accurately point them out, and be conſpicuous themſelves, at the ſame time being no obſtruction to any thing; and eſpecially, that they ſhould not obſcure ſmaller parts too much. I took care too that the tables ſhould be impreſſed as well as poſſible, which is of the greateſt conſequence for the elegance, force, and beauty of the figures, as every body verſed in engraving muſt know. Wherefore I both uſed the fitteſt paper, in which a great deal depends, and employed a very ſkilful and experienced workman. As to the explanations of the tables, they are ſhort, in the form of an index; which I thought was ſufficient: though thoſe that belong to the ſingle figures are a little fuller. The reſt, the hiſtory of the muſcles will explain.

THIS is all I have thought neceſſary to ſay concerning the nature of this work. Though he will beſt underſtand it, and he will find it no eaſy taſk neither, who engages in an affair of the ſame kind. It may poſſibly be thought, that I ſhould have treated particularly of thoſe things, which, beſides ſuch as have been inlarged upon by the beſt hands before me, they might expect I ſhould explain, after all the pains, labour, and expence which I have been at, and which are indeed greater than can well be imagined. But as to ſuch as love and cultivate this ſtudy, if they ſufficiently conſider what I have ſaid above, they will readily underſtand what I intended. And if any one ſhould ſneeringly deſire to know, in what, beſides directing every thing according to the rules above-mentioned, I differ either in the figures, deſcriptions, or any thing elſe, from former anatomiſts, or what I have either corrected, or added, although he may find it out upon making a compariſon, I thought I might be allowed to paſs that over. It is poſſible enough that I might have beſtowed my labour, which in ſuch a number of things was certainly very great, to a ſtill better purpoſe. But whoever imagines, that that accuracy and perfection, which I have ſo earneſtly endeavoured after, was needleſs and unneceſſary, I would have him to conſider, what the greatneſs and dignity of ſuch a work required, beſides a neceſſary uſefulneſs. And I do not doubt but they will be leſs ſurprized, that I eſteem theſe tables to be not only more juſt and more uſeful, but likewiſe more finiſhed and more beautiful than any other have appeared to be.

To this work is added a Supplement, containing a compleat ſyſtem of the blood-veſſels and nerves taken from *Albinus*'s edition of *Euſtachius*; alſo from *Ruyſch*, *Vieuſſens*, *Du Verney*, *Haller*, and *Trew*, beautifully engraved on large copper-plates of the ſame ſize as *Albinus*'s Tables, with Tables of Explanation, containing the Text of *Euſtachius*, *Albinus*, &c. tranſlated into Engliſh. To which are prefixed three whole-length anatomical figures, repreſenting the external parts of the human body, in both ſexes.

THE

First Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS firſt Table contains chiefly a front view or figure of the Human Skeleton; whereunto are added ſome of the Ligaments and Cartilages, without which the connexion or joints of the Bones would be interrupted.

In the head.

A The os frontis, or forehead-bone.

B B The ſuperciliar foramina or holes, tranſmitting each a ſmall artery and nerve out of the orbit, to the frontal muſcles: the left of theſe holes is entire; but the right is partly abſent, forming only a kind of notch.

C D the coronal ſuture. C the part of it which makes a ſerrated or true ſuture: D the part which is ſquamoſe or like a fiſh-ſcale.

E The left parietal bone.

F A ſquamoſe or ſcale-like ſuture, which is formed by the conjunction of the parietal with the temporal bone.

G A ſquamoſe ſuture formed by a meeting of the parietal bone with the largeſt lateral proceſs of the multiform or ſphenoidal bone.

H A ſquamoſe ſuture, formed by a conjunction of the os frontis with the largeſt lateral proceſs of the multiform bone.

I The largeſt lateral proceſs of the multiform or ſphenoidal bone.

K A ſuture common to the os ſquamoſum or temporale with the largeſt lateral proceſs of the multiform bone.

L The ſquamoſe or ſcale-like part of the temporal bone.

M The bony entrance or paſſage of the ear.

N The maſtoide or mammillary proceſs of the temporal bone.

O Zygomatic or jugal proceſs of the temporal bone.

P A ſuture common to the jugal or cheek bone, with the zygomatic proceſs of the temporal bone.

Q Q The oſſa jugalia, or cheek bones.

R R Sutures which conjoin the frontal bone with the cheek bones, near the ends of the eye-brows.

S. S. Sutures formed by the union of the cheek bones with the upper jaw bones.

T T. Parts of the cheek bones which help to form the orbits or ſockets for the eyes.

Betwixt T and W is a ſuture formed in the orbit by a conjunction of the cheek bone with the upper jaw bone.

Betwixt T and c: T and c appear ſutures in common to the cheek bones with the forehead-bone, within the orbits or holes for the eyes.

Betwixt T and Y: T and Y appear ſutures joining the cheek bones to the largeſt lateral proceſſes of the multiform bone.

V V A channel appearing in the bottom of the orbits or holes of the eyes, which opens to the cheek (at t) and tranſmits the upper maxillary branch of the guſtatory nerve to the lips, palate, &c.

W X Part of the upper jaw bone belonging to the bottom of the orbit of the eye.

Betwixt W and X appears a ſuture running by the channel V, and extended along the bottom of the orbit of the eye. This ſuture paſſing over the lower margin of the orbit is extended toward the opening the ſaid channel (at t) in the cheek.

Between X and d is a ſuture common to the upper jaw bone and the os planum (d) of the multiform bone.

Between X and e is a ſuture common to the upper jaw bone and the os unguis (e. f.)

Y Y The orbitary ſurfaces of the largeſt lateral proceſſes of the multiform or ſphenoidal bone.

Betwixt Y and c: Y and c appear ſutures common to the largeſt lateral proceſſes of the multiform bone with the frontal bone, in the orbits of the eyes.

Z The foramen lacerum or hole thro' which the third pair of nerves of the brain, together with the fourth, ſixth and firſt branch of the fifth pair, paſs out of the ſkull into the orbit for the muſcles of the eye.

a The thin proceſs of the multiform or ſphenoidal bone.

b The hole thro' which the optic nerve paſſes out of the ſkull into the orbital cavity, accompanied with a branch of the internal carotid artery.

Betwixt a and c appears a ſuture within the orbit, common to the frontal bone with the thin proceſs of the multiform bone.

Between a and d is a ſuture common to the os planum and the thin proceſs of the multiform bone.

c c Parts of the frontal bone belonging to the orbits of the eyes.

Betwixt c and d is a ſuture common to the os planum and frontal bone.

Between c and e f is a ſuture common to the frontal bone with the os unguis.

d The os planum of the multiform bone.

Betwixt d and e is a ſuture common to the os planum with the os unguis.

e f The os unguis; in which f denotes a ſinus or cavity belonging to the naſal canal.

Betwixt f and g is a ſuture common to the os unguis with the naſal proceſs of the upper jaw bone.

g g The naſal proceſſes of the upper jaw bones.

Betwixt g and k: g and k appear ſutures common to the naſal bones with the naſal proceſſes of the upper jaw bones.

h A ſuture common to the frontal bone with the naſal proceſs of the upper jaw bone.

i i Sutures common to the frontal and naſal bones.

k k The oſſa naſi, or bones of the noſe.

Betwixt k and k is a ſuture common to the two naſal bones.

l The interior part of the naſal proceſs of the upper jaw bone, belonging to the cavity of the noſe.

m. m The lower turbinated or ſpongy bones.

Betwixt l and m, on the right ſide, is a ſuture formed by the conjunction of the lower ſpongy bone with the upper jaw bone.

n o A thin plate of the ethmoidal or ſieve-like bone which makes part of the (ſeptum narium) partition of the noſtrils. o the extremity of the ſaid bony plate which joins to the cartilaginous or griſtly part of the partition.

p The os vomer or plow-ſhare bone.

Betwixt n and p is a kind of ſuture formed by the connexion of the vomer (p) with the plate of the ethmoidal or cribriform bone.

q Part of the upper jaw bone, which belongs to the bottom of the noſtrils.

r A ſuture common to the upper jaw bones.

s. s The upper jaw bones, next the cheeks.

t. t The foramina or holes of the channels (V V) which paſs along the bottom of the orbits of the eyes.

u The pterugoide or winged proceſs of the multiform bone.

w x y z The lower mandible or jaw-bone. x a hole out of which paſs a nerve of the fifth pair and blood-veſſels to the chin, after paſſing thro' a canal within the jaw. y the acute proceſs. z the neck of the obtuſe proceſs or head, by which the mandible is articulated to the temporal bone.

α The cartilage in the joint of the lower jaw, interpoſed betwixt its head, and the temporal bone.

β. γ. δ. ε. ζ. κ. θ. ι : β. γ. δ. ε. ζ. η. θ. ι The left teeth in each of the jaws. β. β the firſt of the inciſive or cutting teeth. γ. γ the ſecond inciſive teeth. δ. δ the canine or dog-teeth. ε. ε the firſt of the grinders. ζ. ζ the ſecond. η. η the third. θ. θ the fourth. ι. ι the fifth, (call'd dentes ſapientiæ) or eye-teeth.

κ The body of the atlas, or vertebra of the ſpine which ſuſtains the head; and in this place it is connected to the epiſtrophæus, or next vertebra. In the ſpine.

λ The body of the epiſtrophæus where it ſuſtains the atlas.

μ The lower oblique proceſs of the fifth vertebra of the neck.

ν ξ ο π The fourth vertebra of the neck. ν its upper oblique proceſs. ξ its lower oblique proceſs. ο its tranſverſe proceſs. π its body.

ρ The lateral opening betwixt the third and fourth vertebra; but in the figure it is marked e.

σ. σ &c. The ligaments which are interpoſed betwixt the bodies of the vertebræ, and which tie them one to the other.

τ υ υ φ φ χ The third vertebra of the neck. τ the body. υ. υ the tranſverſe proceſſes. φ. φ the upper oblique proceſſes. χ the lower oblique proceſs.

ψ ψ ω ω Γ The ſecond vertebra of the neck. ψ. ψ the upper oblique proceſſes. ω. ω the tranſverſe proceſſes. Γ the body.

Δ Δ Θ Θ Λ Λ Ξ The firſt vertebra of the neck. Δ. Δ the upper oblique proceſſes. Θ. Θ the tranſverſe proceſſes. Λ. Λ the lower oblique proceſſes. Ξ the body.

Π Π Σ Φ Φ Ψ The twelfth vertebra of the back. Π. Π its upper oblique proceſſes. Σ the tranſverſe proceſs. Φ. Φ the lower oblique proceſſes. Ψ the body.

Ω a a b b The eleventh vertebra of the back. Ω the body. a. a the upper oblique proceſſes. b. b the tranſverſe proceſſes.

c The tranſverſe proceſs of the ſixth vertebra of the back.

d d e e The third vertebra of the back. d d the body. e e the tranſverſe proceſſes.

f g g The ſecond vertebra of the back. f its body. g g its tranſverſe proceſſes.

h The body of the firſt vertebra of the back.

i k k The fifth vertebra of the loins. i its body. k k its tranſverſe proceſſes.

l m m n The fourth vertebra of the loins. l its body. m m its tranſverſe proceſſes. n its upper oblique proceſs.

o p p The third vertebra of the loins. o its body. p p its tranſverſe proceſſes.

q q r r s The ſecond vertebra of the loins. q q the upper oblique proceſſes. r r its tranſverſe proceſſes. s its body.

t t u u v v w The firſt vertebra of the loins. t t its upper oblique proceſſes. u u its tranſverſe proceſſes. v v its lower oblique proceſſes. w its body.

x x y y z z z z z z A A A A The os ſacrum or great bone of the ſpine. x x the upper oblique proceſſes of its firſt vertebra. y y the ſides of this bone. z. z. z : z. z. z. the three upper and anterior foramina or holes to tranſmit the nerves on each ſide. A A A A the four upper bodies of this bone; betwixt which are bony lines that were formerly ligaments.

B The fourth ſmall bone of the coccyx.

In the thorax, clavicles, and ſcapulæ.

C D E F The ſternum or breaſt bone conſiſting of three parts, of which C is the upper, D the middle, and E the lower; to which laſt is fixed the enſiform cartilage F.

G H The ligaments by which the bones of the ſternum are connected together.

I K L M. I K L M The firſt ribs. K the ſmall head by which it is articulated with the tranſverſe proceſs of the twelfth vertebra of the back. L the former part of the ſaid head, which is connected with the body of the ſame twelfth vertebra of the back. M its cartilaginous end by which it is continued to the ſternum.

N N O P. N N O P The ſecond ribs. O the former part by which it is articulated with the bodies of the eleventh and twelfth vertebræ of the back. P the cartilaginous end of this rib.

Q Q Q R. Q Q Q R The third ribs. R its cartilaginous end.

S S S T. S S S T The fourth ribs. T its cartilaginous end.

V V V V W X. V V V V W The fifth ribs. W its cartilaginous end, ſpreading and adhering (on the left ſide X) to the cartilage belonging to the ſixth rib.

Y Y Y Y Z Γ. Y Y Y Y Z Γ The ſixth ribs. Z its cartilaginous end, ſpreading in the part Γ and adhering to the cartilage of the ſeventh rib.

Δ Δ Δ Θ Λ. Δ Δ Δ Θ Λ The ſeventh ribs. Θ the cartilaginous end which grows broad at Λ and is attached to the cartilage of the eighth rib.

Ξ Ξ Ξ Π Σ. Ξ Ξ Ξ Π The eighth rib. Π the cartilaginous end, which in ſome bodies ſpreads in the part Σ and is attached to the cartilage of the ſeventh rib.

Φ Φ Φ Φ Ψ. Φ Φ Φ Ψ The ninth rib. Ψ its cartilaginous end.

Ω Ω Ω Ω Ω Ω α. Ω Ω Ω Ω Ω α The twelfth rib. α its cartilaginous end.

β β β β γ. β β β β γ The eleventh rib. γ its cartilaginous end.

δ ε. δ ε The twelfth rib. ε its cartilaginous end.

ζ η ι. ζ η ι The clavicles or collar-bones. η the head which is ſuſtained by the ſternum. ι the head faſtened to the upper proceſs of the ſcapula or blade-bone.

θ. θ Cartilages interpoſed betwixt the joints of the clavicles with the ſternum.

κ. κ The cartilages interpoſed betwixt the joints of the collar-bones and the upper proceſſes of the ſcapulæ or blade-bones.

λ λ λ λ λ λ λ λ λ μ ν ξ ο π. λ λ λ λ λ λ λ λ λ μ ν ξ ο π The ſcapulæ or ſhoulder blades. μ its ſpine or ridge. ν its coracoide or crows-bill proceſs. ξ its acromion or upper proceſs. ο the neck. π the cartilaginous cruſt which increaſes the neck.

ρ σ τ υ φ χ ψ ω a b. ρ σ τ υ φ χ ψ ω a b The humeri or bones of the arms. ρ the head, incruſted with a ſmooth cartilage. σ the greater unequal protuberance in the upper head of this bone. τ the leſs unequal protuberance of the ſame. Betwixt theſe protuberances is a ſinus, thro' which paſſes the tendon of the longer head of the biceps muſcle of the arm. φ a ſinus or cavity which receives the upper head of the radius, at the time when the fore-arm is bent as much as poſſible. χ a ſinus that receives the upper head of the ulna, when the cubit is bent as much as it can be. ψ a round head incruſted with a ſmooth cartilage, and articulated with the ulna. ω another round head incruſted with a ſmooth cartilage, and articulated with the radius. a the leſſer condyle. b the greater condyle. In the arms, fore-arms, and hands.

c d e f g. c d e f g The ulna or greater bone in each fore-arm. d its upper head, upon which appears a roughneſs, wherein is inſerted the brachiæus internus muſcle. e f its lower head which ſuſtains the radius; and here, f denotes an arch or concavity lined with a ſmooth cartilage.

g A ſtyloide or pointed proceſs in the lower head of the ulna.

h i n o p q. h k l m The radius or leſs bone in each fore-arm. i its upper head. k the circumference or rim of its upper head incruſted with a ſmooth cartilage. l a protuberance, at the poſterior part of which the tendon of the biceps muſcle of the arm is inſerted, which bends the fore-arm toward the body when the palm of the hand is downwards. m n o p q the lower head of this bone. n denotes a ſinus or groove thro' which paſs the tendons of the long abductor, and leſs extenſor muſcles of the thumb. o a ſinus thro' which goes the tendon of the longer radialis externus muſcle. p a ſinus thro' which goes the tendon of the ſhorter radialis externus muſcle. q a ſinus for the tendon of the greater extenſor of the thumb.

r s t. r s The navicular bones of the wriſts. s the convexity or head which is articulated with the radius, incruſted with a ſmooth cartilage. t a convexity covered with a ſmooth cartilage, and received by the multangular bones.

u w. u The lunar bones of the carpus or wriſt. w a convexity incruſted with a ſmooth cartilage, and articulated with the radius.

x x The cuneiform or wedge-like bones of the wriſts. In the right hand this bone appears with a ſmooth cartilaginous cruſt, by which it is articulated with the lunar bone and with the ulna.

y The roundiſh or pea-like bone of the wriſt.

z A A B. z A The unciform or hook-like bones. A A the part which is covered with a ſmooth cartilage, articulated to the cuneiform and lunar bones. B the unciform proceſs.

C D. C D Oſſa magna vel capitata, the great or round-headed bones of the wriſts. D the round head incruſted with a ſmooth cartilage, and articulated with the navicular and lunar bone.

E E The trapezoide, cubical, or leaſt of the multangular bones in the wriſts.

F F the greater trapezial or multangular bones of the wriſts.

G H. G H The metacarpal bones of the thumbs. H the lower head incruſted with a ſmooth cartilage, by which it is articulated with the firſt bone of the thumb, and with the ſeſamoide bones, I. K.

I K The ſeſamoide bones (*i. e.* like ſeſamum ſeeds) fixed at the joint of the thumb with its metacarpal bone.

L M. L M The firſt bones of the thumbs. M the lower head incruſted with a ſmooth cartilage, by which it is articulated with the laſt bone of the thumb.

N A ſeſamoide bone placed at the laſt joint of the thumb.

O O The laſt bones of the thumbs.

P. Q. R. S. T: P. Q. R. S. T The metacarpal bones of the hands. P the metacarpal bone of the index or firſt-finger. Q that of the middle-finger. R that of the ring-finger. S that of the auricular or little finger. T the lower head, incruſted with a ſmooth cartilage in the firſt joint of the finger: and the ſame holds in the reſt of theſe bones.

V W Small ſeſamoide bones ſometimes found at the firſt joints of the index and little finger.

X. Y. Z. Γ. Δ: X. Y Y. Z Z. Γ. Δ The firſt phalanx, order or row, of bones in the fingers. X that of the index. Y that of the middle finger. Z that of the ring finger, Γ that of the little finger. Δ the lower head, covered with a ſmooth cartilaginous cruſt, at its articulation or joint with the ſecond bone of the finger: the ſame holds alſo in the reſt of the fingers.

Θ. Λ. Ξ. Π. Σ: Θ. Λ. Ξ. Π. Σ The bones in the fingers of the ſecond phalanx or order. Θ that of the index. Λ that of the middle finger. Ξ that of the ring-finger. Π that of the little finger. Σ the lower head, incruſted with a ſmooth cartilage, and jointed to the third or laſt bone of the finger: and ſo in the reſt of theſe bones.

Φ. Ψ. Ω α: Φ. Ψ. Ω. α The bones of the third phalanx or laſt order of the fingers. Φ that of the index. Ψ that of the middle finger. Ω that of the ring finger. α that of the little finger.

In the pelvis, legs, and feet.

β γ δ ε ε ζ η θ ι ι κ λ μ. β γ δ ε ε ζ η θ ι ι κ λ μ The innominate or baſon bones, including three others. β γ δ the os ilium or flank-bone. γ the ſpine or ridge of that bone. δ a tubercle from whence ariſes the rectus or ſtraight muſcle of the thigh. ε ε ζ the iſchion, or hich bone. ζ a ſinus

or

or notch through which paſs the internal iliac, and great pſoas or lumbal muſcle. η the ſharp-pointed proceſs of the iſchium. θ the tubercle of the iſchium. ι κ λ the os pubis. κ the ſpine or ridge of the os pubis, from whence ariſes the pectineus muſcle of the thigh. λ a tubercle, into which is inſerted the lower and outer tendon of the double aponeuroſis of the oblique external muſcle of the abdomen. μ the great foramen or hole of this bone.

ν A cartilage or griſtle interpoſed betwixt the bones of the pubis, and connecting them together.

ξ ο π ρ σ τ υ φ χ ψ. ξ ο π ρ σ τ υ φ χ χ ψ ψ The thigh bones. ξ the head incruſted with a ſmooth cartilage. ο the neck. π the greater trochanter or ſpoke. ρ a rough protuberance, to which is fixed a ligament that ſecures the joint of the hip. σ the leſs trochanter or ſpoke. υ the outer condyle of the lower head. φ the inner condyle. χ a ſinus or cavity incruſted with a ſmooth cartilage next the joint of the patella or knee-pan bone. ψ ſo far extends the ſmooth cartilaginous cruſt that covers the condyles or lower heads of the thigh bone, at its juncture with the tibia, or great bone of the leg.

ω. ω The patellæ or knee-pan bones.

a b. a b The interior ſemilunar cartilages in the joints of the knees: at b b, backwards, theſe turn into ligaments, and are inſerted into the tibia.

c d. c d The outer ſemilunar cartilages, turning to ligaments in the back part of the joint d d, which are inſerted into the tibia.

e f g h i k l. e f g h i k l The tibiæ or great bones of the legs. e the upper head. f g ſmooth cartilaginous incruſtations covering the top of the tibia, next the femur, in the joint of the knee. h the protuberance into which is fixed the ligament of the patella, faſtening the bone to that tibia. i the ſpine or edge of the tibia. k l its lower head. l the inner ancle.

m n o. m n o The fibulæ or ſlender bones of the leg. m the upper head. n the ſpine or ridge. o the lower head, which makes the outer ancle.

p q r. p q r The aſtragalus or cockal bone. q the ſmooth cartilaginous cruſt that covers its convexity next the bones of the leg to which it is jointed. r a like cruſt covering its head or fore part.

s t. s t The calcanei or heel-bones. t the part that ſuſtains the neck of the aſtragalus.

u u The navicular bones of the tarſus or ancle.

v v The greater cuneiform bones of the tarſus.

w w The ſmall cuneiform bones of the tarſus.

x x The middle cuneiform bones of the tarſus.

y The cuboide or cubical bone of the tarſus.

z. A. B. C. D. E: z. A. B. C. D. E The bones of the metatarſus or inſtep. z that of the fourth or little toe. A that of the third. B of the ſecond. C of the firſt, and D of the great toe. E a ſmooth cartilaginous cruſt that covers the lower head at its juncture with the firſt bone of the great toe: which cruſt is alſo in the reſt of theſe bones.

F. G: F Semaſoide bones placed at the junctures of the great toes with their metatarſal bones.

H. H The firſt bones of the great toes.

I. I The laſt bones of the great toes.

K. L. M. N: K. L. M. N The bones of the firſt phalanx or order of the ſmaller toes. K that of the firſt toe. L of the ſecond. M of the third, and N of the fourth or little toe.

O. P. Q. R: O. P. Q. R The bones of the ſecond phalanx or order of the ſmaller toes. O that of the firſt toe. P that of the ſecond. Q of the third, and R that of the fourth or little toe.

S. T. V. W: S. T. V. W The bones of the laſt phalanx or third order of the ſmaller toes. S that of the firſt toe. T that of the ſecond. V of the third, and W of the fourth or little toe.

THE

Second Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS Table repreſents a back-view of the former Skeleton, and in the ſame Poſition. We have likewiſe here added ſome of the ligaments and cartilages, where they appeared neceſſary to make up or continue the joints of the bones.

In the head and ſpine.

a. a The vertical or parietal bones.
b. b The vertical foramina or holes tranſmitting ſmall veins to the longitudinal ſinus.
c The ſagittal or longitudinal ſuture.
d d The lambdoide or occipital ſuture.
e The occipital bone.
f The ſquamoſe ſuture formed by a conjunction of the ſcaly part of the temporal and parietal bones.
g. g True ſutures, formed by a conjunction of the maſtoide or dug-like proceſſes of the occipital bone with the parietal bones.
h The os ſquamoſum, or ſcaly part of the temporal bone.
i i. i i Appendages of the lambdoide ſuture.
k. k Foramina or holes, through which paſs branches of the internal jugular veins, to the lateral ſinuſſes of the dura mater.
l. l The maſtoide or mammillary proceſſes of the temporal bones.
m The frontal or forehead bone.
n A ſuture formed by the conjunction of the jugal with the frontal bone, near the extremity of the eye-brow.
o A ſuture made by the conjunction of the jugal proceſs of the temporal bone with the cheek-bone.
p p The os jugale or cheek bone.
q The jugal proceſs of the temporal bone.
r Os maxillare ſuperius, or the upper jaw-bone.

Betwixt r and p is a ſuture formed by a conjunction of the jugal or cheek-bone with the upper jaw-bone.

s A cartilaginous plate interpoſed betwixt the joint of the lower jaw with the temporal bone.

t u u u u The lower jaw or mandible. t the head which is jointed to the temporal bone.

w. w Thoſe parts of the upper jaw-bones which ſuſtain the palate or roof of the mouth.

The teeth in the jaws appear evidently of themſelves.

x x The ſtyloide or pointed proceſſes of the temporal bones.

y y z A B C D D E The atlas, or uppermoſt vertebra, that ſuſtains the head. y y its tranſverſe proceſſes. z a hole in the tranſverſe proceſs. A an arch or curvature found in ſome bodies: and this, with the ſinus thro' which the vertebral artery is inflected behind the body of the atlas, makes the hole B, thro' which that artery penetrates into the great cavity of the vertebræ; as at other times it paſſes thro' a ſinus or notch, marked C in the left ſide. C a ſinus or notch in that part of the body of the atlas where it ſuſtains the head; thro' which ſinus the vertebral artery bends itſelf, when it is about to enter the great ſpinal cavity of the vertebræ. D D the lower parts of its body, by which it is connected to the epiſtrophæus. E a rough protuberance, which is inſtead of a ſpinal proceſs, and from whence ariſe the (muſculi recti poſtici minores capitis) ſmaller, poſterior, ſtraight muſcles of the head.

F G H H I I K K L The epiſtrophæus, or vertebra upon which the head and atlas turn laterally. F its axis. G the inner part of its body. H H the two vertices or turning points which ſuſtain the atlas. I I the tranſverſe proceſſes. K K the lower oblique proceſſes. L the ſpinal proceſs.

M N Two of the vertebræ of the neck. M the fifth. N the fourth in order, counting upwards.

O P P Q Q R R The third vertebra of the neck. O the ſpinal proceſs. P P the upper oblique proceſſes. Q Q the lower oblique proceſſes. R R the tranſverſe proceſſes. From hence the parts of the other vertebræ of the neck may be likewiſe underſtood.

S T The two lower vertebræ of the neck. S the ſecond, and T the firſt in order.

V W X Y Vertebræ of the back. V the twelfth. W the eleventh. X the tenth. Y the ninth.

Z Z $\alpha\ \alpha\ \beta\ \beta\ \gamma$ The eighth vertebra of the back. Z Z its upper oblique proceſſes. $\alpha\ \alpha$ the tranſverſe proceſſes. $\beta\ \beta$ the lower oblique proceſſes. γ the ſpinal proceſs. From this the parts of the other vertebræ of the back may be underſtood.

$\delta.\ \varepsilon.\ \zeta.\ \eta.\ \theta.\ \iota$ Vertebræ of the back. δ the ſeventh. ε the ſixth. ζ the fifth. η the fourth. θ the third. ι the ſecond.

$\varkappa\ \lambda\ \lambda\ \mu\ \mu\ \mu$ The firſt vertebræ of the back in which $\lambda\ \lambda$ denote the tranſverſe proceſſes, as if they were inflected behind the junctures of the upper oblique proceſſes of this vertebra with the lower oblique proceſſes of the ſecond vertebra. $\mu\ \mu\ \mu$ its body.

ν The fifth vertebra of the loins.

ξ ο ο π π ρ ρ σ σ σ The fourth vertebra of the loins. ξ the ſpinal proceſs. ο ο the upper oblique proceſſes. π π the tranſverſe proceſſes. ρ ρ the lower oblique proceſſes. σ σ σ the body of this vertebra. The parts of the other vertebræ of the loins may without difficulty be underſtood from this.

τ. υ. φ The remaining vertebræ of the loins. τ the third, υ the ſecond, and φ the firſt of them, reckoning upwards with Albinus, which is contrary to the cuſtom of Britiſh Anatomiſts.

χ. χ &c. The ligaments that are interpoſed betwixt the bodies of the vertebræ and connect them one to the other.

ψ ψ ω ω ω ω ω ω ω ω Γ Γ Γ Δ Δ Θ Λ The os ſacrum or great bone of the ſpine. ψ ψ the upper oblique proceſſes. ω. ω. ω. ω. ω. ω. ω. ω the poſterior foramina or holes. Γ Γ Γ the ſpinal proceſſes. Δ Δ the lower oblique proceſſes, with which are conjoined the upper oblique proceſſes of the firſt bone of the coccyx. Θ the body of the fourth of thoſe vertebræ which compoſe the os ſacrum. betwixt Θ and Λ is a bony part which was formerly a ligament, intervening and contiguous with the bodies of the fourth and fifth of theſe falſe vertebræ. Λ the body of the fifth vertebra of the os ſacrum.

Betwixt Λ and Ξ is a ligament, interpoſed between the bottom of the os ſacrum and coccyx, and tying them together.

Ξ Π Σ The firſt bone of the os coccygis. Ξ the body. Π the tranſverſe proceſs; the fellow to which is alſo in the other ſide. Σ the upper oblique proceſs; the fellow to which is alſo in the other ſide.

Betwixt Ξ and Φ is a ligament that ties together the bodies of the firſt and ſecond bones of the coccyx.

Φ Ψ Ω The lower bones of the coccyx, Φ the ſecond, Ψ the third, Ω the fourth.

In the thorax and upper extremities.

a a b b The ſternum or breaſt-bone.

c c d d. c c d d The firſt or uppermoſt ribs. d d the cartilaginous part.

e e e f. e e e f The ſecond ribs. f the cartilaginous part.

g g h. g g g g h The third ribs. h the cartilaginous part.

i i k. i i k The fourth ribs. k the cartilaginous part.

l l m. l l m The fifth ribs. m the cartilaginous part.

n n n n o o. n n n n o The ſixth ribs. o the cartilaginous part.

p p p p p q q. p p p p q q The ſeventh ribs. q the cartilaginous part.

r r r s. r r r r s The eighth ribs. s the cartilaginous part.

t t t u. t t u The ninth ribs. u the cartilaginous part.

w x x. w x x x The tenth ribs. x the cartilaginous part.

y z. y z The eleventh ribs. z the cartilaginous part.

A B. A B The twelfth rib. B the cartilaginous part.

C C C C. C C C The clavicles or collar bones.

D D Cartilaginous plates faſtened betwixt the junctures of the clavicles with the acromia or upper proceſſes of the ſcapulæ or ſhoulder blades.

E E F G H I. E E F G H I The ſcapulæ or blade-bones. F the ſpine. G the acromion or upper proceſs. H the neck. I the cartilage that lines the cavity of its neck.

K L M N O P. K L M N O P The humeri or bones of the arms. K the head incruſted with a ſmooth cartilage where it is jointed or received into the cavity of the ſcapula. L the greater unequal protuberance of the upper head. M a ſinus or groove thro' which the brachial artery, vein and nerve paſs along. N a ſinus or cavity that receives the olecranon or head of the ulna when the fore-arm or cubit is extended. O the leſſer condyle, and P the greater condyle or protuberance in the lower head of the humerus.

Q R S T. Q R S T The ulna or greater bone of the cubit. R the protuberance of its upper head, call'd the olecranum or elbow. S its lower ſmall head that ſuſtains the radius. T the pointed proceſs of its lower head.

V V W X. V X Y Z α β The radii or leſs bones of the cubit. W X the upper head. X the circumference or rim of the upper head incruſted with a ſmooth cartilage which moves in the concavity of the ulna. Y the ſinus which contains the tendons of the long abductor of the thumb, and of the leſs extenſor. Z a ſinus that receives the tendons of the outer radial muſcles. α the ſinus or groove that conducts the tendon of the larger extenſor of the thumb. β the ſinus or groove that conducts the tendons of the common extenſor of the fingers, with that of the extenſor proper to the little finger, and to the index or firſt finger.

γ δ ε. γ The navicular bones of the wriſts. δ the ſmall head incruſted with a ſmooth cartilage where it is jointed to the radius. ε the head covered with a ſmooth cartilage that meets the multangular bones.

ζ. ζ The lunar bones, that in the right hand appears covered with a ſmooth cartilaginous cruſt where it is jointed to the radius.

η θ. η The oſſa triquetra or cuneiform bones of the wriſts. θ the part covered with a ſmooth cartilage which is jointed with the unciform bone (κ λ).

ι. ι The oſſa ſubrotunda, piſiformia, or pea-like bones.

κ λ. κ λ The unciform bones of the carpus. λ the ſurface incruſted with a ſmooth cartilage that is jointed with the cuneiform bone (η).

μ ν. μ Oſſa magna vel capitata, the great or round headed bones of the wriſts. ν the round head incruſted with a ſmooth cartilage by which it is jointed to the lunar and navicular bone.

ξ. ξ The trapezoide or leſs of the multangular bones in the wriſts.

ο. ο The trapezial or great multangular bones of the carpus.

π ρ. π The metacarpal bones of the thumbs. ρ the lower head covered with a ſmooth cartilaginous cruſt, where it is jointed to the firſt bone of the thumb, and with the ſeſamoide bones. The ſame is alſo true of the left thumb.

σ. σ The ſeſamoide bones placed at the joint of the thumb with its metacarpal bone.

τ υ. τ υ The firſt bones of the thumbs. υ a ſmooth cartilaginous cruſt that covers the lower head where it is jointed to the laſt bone of the thumb.

φ. φ The laſt phalanges or bones of the thumbs.

χ ψ. ω. Γ Δ: χ. ψ. ω. Γ Δ The bones of the metacarpus or hand. χ that of the index or firſt finger. ψ that of the middle finger. ω that of the ring finger. Γ Δ that of the little finger. Δ the cartilaginous cruſt that covers

covers its lower head where it is jointed to the bone of the firſt phalanx or order. The ſame holds in the reſt of theſe bones.

Θ Λ. Ξ Π Σ: Θ. Λ. Ξ. Π The bones of the fingers of the firſt phalanx or order. Θ that of the little finger. Λ that of the ring finger. Ξ that of the middle finger. Π Σ that of the index or firſt finger. Σ a cartilaginous cruſt covering the lower head, where it is jointed to the bone of the ſecond phalanx: the ſame likewiſe holds in the other fingers.

Φ. Ψ. Ω. a b: Φ. Ω. a The bones of the fingers of the ſecond phalanx or order; Φ that of the index. Ψ that of the middle finger. Ω that of the ring finger. a b that of the little finger. b part of the lower head at its joint with the bone of the third and laſt order, incruſted with a ſmooth cartilage. The like in the other fingers.

c d e f: c d e f The bones of the fingers of the third and laſt phalanx or order.

g h i k l m m. g h i k l m The oſſa innominata or haunch bones. g h the os ilium, hip or flank bone. h its ſpine or edge. i the iſchium or hitch bone. k the ſharp proceſs of the iſchium. l the tubercle or ſeat of the iſchium. m the os pubis.

n o p q r s t u w x. o p q r s t u w x The thigh bones. n the round head, which being incruſted with a ſmooth cartilage is received or jointed into the acetabulum or cavity of the haunch bone. o the neck. p the great trochanter or ſpoke. q the leſs trochanter. r the linea aſpera or roughneſs that is extended down the backſide of the thigh bone. s t the outer condyle or protuberance of the lower head of the femur, of which t denotes the part belonging to the joint of the knee, covered with a ſmooth cartilaginous cruſt. u w the inner condyle; w the part of it that belongs to the joint of the knee incruſted with a ſmooth cartilage. x the ſinus or cavity betwixt the condyles.

y y The exterior ſemilunar cartilages which end in ligaments that are inſerted into the head of the femur and tibia in the joint of the knee, z z.

A A the interior ſemilunar cartilages, inſerted in the joint of the knee; and affixed to the tibiæ or greater bones of the legs B B by their extremities, turned into ligaments.

C D E F G. C D E F G The tibiæ or greater bones of the legs. D E parts of the upper head of the tibia which being incruſted with a ſmooth cartilage belong to the joint of the knee. F the inner ancle. G a ſinus or groove thro' which paſs the tendons of the tibialis poſticus and long flexor of the toes.

H I K L. H I K L The fibulæ or ſlender bones of the legs. I the upper head which is fix'd to the tibia. K the outer ancle. L the ſinus or notch thro' which paſs the tendons of the long and ſhort peronei muſcles.

M N O P. M N O P The aſtragali or cockal bones. N O the ſmooth cartilaginous incruſtation that covers its convexity; and N denotes that part which is jointed to the tibia; O that which is jointed to the os perone or fibula. P its head.

Q R. Q R The calcanei or heel bones. R a protuberance at which the tendon of the peroneus longus muſcle is inflected.

S. S The navicular bones of the tarſus or ancle.
T. T The leſs cuneiform bones of the tarſus.
V. V The middle cuneiform bones of the tarſus.
W. W The cubical bones of the tarſus.
X Y Z α. X X Y Z α The bones of the metatarſus or inſtep. X that of the firſt of the ſmaller toes. Y that of the ſecond, Z of the third, and α that of the fourth or little toe.
β. γ. δ. ε: β. γ. δ The bones of the firſt phalanx or order of the ſmaller toes. β that of the fourth or little toe, γ that of the third, δ that of the ſecond, ε of the firſt.
ζ. η: ζ The bones of the ſecond order or phalanx of the ſmaller toes; ζ that of the fourth, η of the third.
θ. ι. κ: θ The bones of the third or laſt phalanx of the ſmaller toes; θ that of the fourth or little toe, ι of the third, κ of the ſecond.
λ The firſt bone of the great toe.
μ The metatarſal bone of the great toe.
ν The greater cuneiform bone of the tarſus.
ξ. ο The ſmall ſeſamoide bones that are placed at the joint of the great toe with its metatarſal bone. ξ the inner, and ο the outer of theſe ſmall bones.

THE

THE

Third Anatomical Table

OF THE

HUMAN SKELETON

EXPLAINED.

THIS Table repreſents a ſide-view of the ſame Skeleton, as before; but in a different attitude or poſition. And to this figure we have likewiſe, in ſome places, added ligaments and cartilages, where they ſeemed neceſſary to continue the joints of the bones.

In the head and ſpine.

A A The vertical or parietal bones.
B The ſagittal or longitudinal ſuture.
C C The vertical foramina or holes tranſmitting ſmall veins to the longitudinal ſinus of the dura mater.
D D The lambdoide ſuture.
E The occipital bone.
F G. G The mammillary proceſſes of the temporal bones. F a protuberance from whence ariſes the digaſtic muſcle of the lower jaw.
H Two foramina or ſmall holes; one in the maſtoide proceſs of the temporal bone, near the appendix of the lambdoide ſuture: the other in the appendix itſelf of that ſuture; thro' which laſt foramen a vein paſſes to the lateral ſinus of the dura mater.
I an appendix or addition to the lambdoide ſuture.
K A true ſuture formed by a conjunction of the maſtoide part of the temporal bone with the parietal bone.
L The maſtoide or mammillary proceſs of the temporal bone.
M The bony meatus or entrance of the ear.
N The zygomatic or jugal proceſs of the temporal bone.
O The ſquamoſe or ſcaly part of the temporal bone.
P The ſquamoſe ſuture formed by a conjunction of the temporal with the parietal bone.

QRS

Q R S The coronal ſuture. Q that part which is a ſerrated or true ſuture. R S that part of the frontal bone which like a ſcale ſhoots under the parietal bone R. S the multiform or ſphenoidal bone.

T The frontal bone.

V The ſquamoſe ſuture formed by the conjunction of the multiform bone with the parietal bone.

W A ſuture formed by the conjunction of the largeſt lateral proceſs of the multiform bone with the ſquamoſe part of the temporal bone.

X The largeſt lateral proceſs of the multiform bone.

Y A ſuture common to the os frontis and cheek bone near the extremity of the eye-brow.

Z Part of the os jugale or cheek bone in the temporal cavity.

Below Z is a ſuture common to the cheek bone with the upper jaw bone, in the temporal cavity.

Betwixt Z and X is a ſuture common to the cheek bone with the largeſt lateral proceſs of the multiform bone.

a The os maxillare ſuperius, or upper jaw bone.

Betwixt a and X is a ſlit or aperture that is left betwixt the upper jaw, cheek, and multiform bone.

b The outer part of the os jugale, or cheek bone.

c A ſuture common to the cheek bone with the zygomatic proceſs of the temporal bone.

d The os maxillare ſuperius, or upper jaw bone.

e f g g The mandible or lower jaw. e its coronal or acute proceſs. f its condyle or head that is jointed with the temporal bone. Juſt above f appears the moveable cartilaginous plate that is interpoſed in the articulation of the lower jaw.

h i The concave part of the left winged proceſs of the multiform bone. i the little hook that ſupports and confines the tendon of the circumflex muſcle of the palate.

k l The baſis of the upper jaw bone. k that part which forms the gums or ſockets of the teeth. l that which is in the palate.

m m m The teeth in each of the jaws.

n o o p p q The atlas or uppermoſt vertebra. n the left part of its body, into which is received the coronoide proceſs of the occipital bone, which ſuſtains the head with a moveable joint. o o the two lower parts of its body by which it is faſtened with moveable articulations to the epiſtrophæus. p p the tranſverſe proceſſes. q the protuberance or inequality that is inſtead of a ſpinal proceſs, and from whence ariſe the (recti poſtici minores capitis) the leſs poſterior and ſtraight muſcles of the head.

r r s t u The epiſtrophæus or ſecond vertebra of the neck. r r the two parts of its body which ſuſtain the atlas or uppermoſt vertebra, with moveable junctures. s the tranſverſe proceſs, in which is a foramen or ſmall hole to give a paſſage to the vertebral artery and vein. t the lower oblique proceſs. u the ſpinal proceſs, the extremity or end of which is furcated or divided into two.

v w x y z The fifth vertebra of the neck (if we reckon upwards, otherwiſe the third, if we count downwards, as is moſt uſual). v its body. w its tranſverſe proceſs. x its upper oblique proceſs. y its lower oblique proceſs. z its ſpinal proceſs.

α α, &c. The ligaments interpoſed betwixt the bodies of the vertebræ and tying them to each other.

β. γ. δ. ε The lower vertebræ of the neck. β the fourth. γ the third. δ the ſecond. ε the firſt. The parts or proceſſes of theſe vertebræ are intelligible from the laſt explained.

ζ η θ The twelfth or uppermoſt vertebra of the back. ζ the body. η the tranſverſe proceſs. θ the ſpinal proceſs.

ι κ λ The eleventh vertebra of the back. ι the tranſverſe proceſs. λ the ſpinal proceſs.

μ The tranſverſe proceſs of the tenth vertebra of the back.

ν. ν. &c. Openings made betwixt the vertebræ for the ſpinal nerves to come out, &c.

ξ. ο. π. ρ. σ The ſpinal proceſſes of the vertebræ of the back. ξ that of the tenth. ο of the ninth. π of the eighth. ρ of the ſeventh, and σ of the ſixth.

τ υ The fifth vertebra of the back. τ the ſpinal proceſs. υ the body.

φ χ ψ The fourth vertebra of the back. φ the body. ψ the ſpinal proceſs.

ω Γ Δ The third vertebra of the back. ω the body. Γ the lower oblique proceſs. Δ the ſpinal proceſs.

Θ Θ Λ Ξ The ſecond vertebra of the back. Θ Θ the body. Λ the upper oblique proceſs. Ξ the ſpinal proceſs.

Π Σ Φ The firſt vertebra of the back. Π its body. Φ its ſpinal proceſs.

Ψ Ψ Ω The uppermoſt vertebra of the loins. Ψ Ψ its body. Ω its ſpinal proceſs.

A A Æ B C C D The fourth vertebra of the loins. A A the body. Æ the upper oblique proceſs. B the tranſverſe proceſs. C C the lower oblique proceſs. D the ſpinal proceſs.

E F G H I The third vertebra of the loins. E the body. F the tranſverſe proceſs. G the upper oblique proceſs. H the ſpinal proceſs. I the lower oblique proceſs.

K The ſecond vertebra of the loins, the parts and proceſſes of which may be underſtood from the laſt mentioned.

L M The loweſt vertebra of the loins. L its upper oblique proceſs. M its ſpinal proceſs.

N O P The os ſacrum or great bone of the ſpine. N the unequal or rough part of its ſide below the os ilium. O the third ſpinal proceſs. P the lower oblique proceſs, which is jointed to the upper oblique proceſs of the firſt ſmall bone of the coccyx.

Q R The firſt ſmall bone of the coccyx. Q its upper oblique proceſs. R its body.

S T The lower ſmall bones of the coccyx. S the ſecond. T the third.

V W X The firſt rib of the left ſide. V the firſt head or anterior part of its ſpinal end that is faſtened into the body of the twelfth vertebra of the back. In the thorax ſhoulder-

blades, and clavicles.

back. W the ſecond head that is jointed with the tranſverſe proceſs of the ſame vertebra.

Y Z a a b The ſecond rib of the left ſide. Y the firſt head that is faſtened into a ſinus or ſmall cavity, common to the bodies of the eleventh and twelfth vertebræ of the back. Z the ſecond ſmall head that is jointed with the tranſverſe proceſs of the eleventh vertebra of the back. b its cartilaginous end.

c The ſecond rib of the right ſide.

d d e The third rib of the left ſide. e its cartilaginous end.

f f The third rib of the right ſide.

g h The fourth rib of the left ſide. h its cartilaginous end.

i i k The fourth rib of the right ſide. k its cartilaginous end.

l m The fifth rib of the left ſide. m its cartilaginous end.

n n o o The fifth rib of the right ſide. o o its cartilaginous end.

p p q The ſixth rib of the left ſide. q its cartilaginous end.

r r s s The ſixth rib of the right ſide. s s its cartilaginous end.

t t u The ſeventh rib of the left ſide. u its cartilaginous end.

v v w w The ſeventh rib of the right ſide. w w its cartilaginous extremity.

x y The eighth rib of the left ſide. y its cartilaginous end.

z z z 1. 1 The eighth rib of the right ſide. 1. 1 its cartilaginous end.

2. 3 The ninth rib of the left ſide. 3 its cartilaginous end.

4. 4. 4. 5. 5 The ninth rib of the right ſide. 5. 5 its cartilaginous end.

6. 6. 7 The tenth rib of the left ſide. 7 its cartilaginous end.

8. 8. 9 The tenth rib of the right ſide. 9 its cartilaginous end.

10. 10. 11 The eleventh rib of the left ſide. 11 its cartilaginous end.

12. 12. 13 The eleventh rib of the right ſide. 13 its cartilaginous end.

14. 15. 15. 16 The twelfth rib of the left ſide. 14 its firſt head that is faſtened to the body of the lowermoſt vertebra of the back. 16 its cartilaginous end.

17 The inner ſide of the right ſcapula or ſhoulder-blade.

18. 19. 20. 21. 22 The left ſcapula. 19 its neck. 20 the cartilaginous part that enlarges its neck, and covers the cavity into which the humerus is jointed. 21 the ſpine. 22 its acromion or upper proceſs.

23 The left clavicle or collar bone.

24. 24. 24 The os pectoris or breaſt bone.

In the upper extremities.

A B C D E F. A F G H The humeri or bones of the arms. A in the left humerus denotes a protuberance where the deltoide muſcle is inſerted. B C C the upper head. B the leſs protuberance of the upper head. C the greater protuberance of the upper head. Betwixt B and C is a ſinus or groove wherein is lodged the tendon of the longer head of the biceps muſcle of the arm. D a ſmooth cartilaginous cruſt that covers the part of the head which is jointed into the cavity of the ſcapula. E the leſs condyle of the lower head. F the head cover'd with a ſmooth cartilage with which the radius is articulated. G a convexity incruſted with a ſmooth cartilage to which the ulna is articulated. H the greater condyle.

I K L. I K L M The ulnæ or greater bones of the cubit. I the olecranon or elbow. L a ſmall head, in its circumference incruſted with a ſmooth cartilage

tilage where it is articulated to the radius. M the ſtyloide or pointed proceſs.

N O P Q Q. N O P R S The radii or leſs bones of the fore-arm. O the upper head. P a tubercle at the back part of which the tendon of the biceps muſcle of the arm is inſerted, which bends the fore-arm towards the body when the palm of the hand is downwards. Q Q R S the lower heads. R a ſinus or groove thro' which paſs the tendons of the leſs extenſor and long abductor muſcles of the thumb. S a ſinus or groove that is again partitioned into two, thro' which paſs the tendons of the external radial muſcles.

T V. T The navicular bones of the wriſts. V the head incruſted with a ſmooth cartilage by which it is jointed to the multangular bones.

W. W The lunar bones of the carpus.

X Y The os triquetrum or cuneiform bone of the wriſt. X that part which is incruſted with a ſmooth cartilage, where it is jointed to the ulna by a ligament that paſſes from the bottom of the head of the ulna to the bottom of the radius, where the latter is jointed to the ulna.

Z. Z The oſſa rotunda or pea-like bones of the carpus.

a. a The trapezial or great multangular bones.

b. b The trapezoide or leſs multangular bones of the carpus.

c. c c The oſſa magna vel capitata, the great or round headed bones of the wriſts.

d. d e f The unciform bones of the wriſts. e the part incruſted with a ſmooth cartilage where it is articulated with the cuneiform bone (X Y). f the unciform proceſs.

g. g h The metacarpal bones of the thumbs. h a cartilaginous cruſt that covers the lower head where it is jointed to the firſt phalanx and the ſeſamoide bone. The ſame is alſo true in the right thumb.

i. i The ſeſamoide bones placed at the joint of the thumb with its metacarpal bone.

k. k l The firſt phalanx or bone of the the thumb. l a cartilaginous cruſt covering the lower head where it is jointed with the laſt bone.

m. m The laſt phalanx or bones of the thumbs.

n n. p. q. r: n o. p. r The metacarpal bones of the hands; n that of the index or firſt finger, p that of the middle finger, q that of the ring finger, r that of the little finger. o the ſmooth cartilaginous cruſt that covers the lower head of the metacarpal bone of the index, where it is jointed to the bone of the firſt phalanx: and the ſame holds of the reſt of theſe bones in each hand.

s. t. u. v: s. t. u. v. w The bones of the firſt phalanx or order of the fingers. s that of the little finger, t that of the ring finger, u that of the middle finger, v that of the index. w a ſmooth cartilaginous cruſt that covers the lower head where it is jointed to the bone of the ſecond phalanx or order: and the ſame alſo holds in the reſt.

x. y. z. Γ: x. y. z. Γ. Δ The bones of the ſecond phalanx or order of the fingers: x that of the index, y that of the middle finger, z that of the ring finger, Γ that of the little finger. Δ the lower head incruſted with

 a ſmooth

a ſmooth cartilage, where it is jointed to the bone of the third or laſt order: and ſo of the reſt.

Θ. Λ. Ξ. Π: Θ. Λ. Ξ The bones of the third or laſt phalanx of the fingers. Θ that of the index, Λ that of the middle finger, Ξ that of the ring finger, Π that of the little finger.

In the pelvis and lower extremities,

Σ Φ Ψ Ω a b The left os innominatum. Σ Φ Ψ the os ilium, hip or flank bone. Φ its ſpin. Ψ the protuberance from whence ariſes the rectus muſcle of the leg. Ω a the os iſchium or hich bone, a the acute proceſs of the iſchium, b the os pubis.

c d e f f The right os innominatum. c the ſpine or edge of the os ilium, d the tubercle from whence ariſes the rectus muſcle of the leg. e the acute proceſs of the iſchium. f f the os pubis.

g h i k l m The left femur or thigh bone. g the head incruſted with a ſmooth cartilage where it is jointed into the acetabulum. h the neck. i the greater trochanter. l the outer condyle of the lower head. m ſo far exextends the ſmooth cartilaginous cruſt that covers part of the condyles, at their juncture with the knee.

n n o p p The right femur or thigh bone. o the inner condyle. p p the boundaries of the ſmooth cartilaginous cruſt that covers the part of this condyle where it is jointed to the tibia, and patella.

q r. q r The patellæ or knee-pan bones. r that part which is covered with a ſmooth cartilaginous cruſt which forms part of the joint at the knee.

s. s The inner ſemilunar cartilages that are interpoſed in the joints of the knees.

t The outer ſemilunar cartilage in the joint of the knee.

u v v w x y z. u v w x y z The tibiæ or greater bones of the legs. u the upper head, v that part of the upper head which belonging to the joint of the knee is covered with a ſmooth cartilaginous cruſt. w a protuberance in which terminates the ligament that comes from the patella, and ties the ſame to the tibia. y z the lower head, ż the inner ancle.

A B C. A B C The fibulæ or ſmall bones of the legs. B the upper head. C the outer ancle.

D E F G. D E G The aſtragali or cockal bones. e that part which helps to form the juncture with the bones of the leg, covered with a ſmooth cartilaginous cruſt. F a ſinus or groove thro' which paſſes the tendon of the long flexor muſcle of the great toe. G the cartilaginous incruſtation that covers this head of the aſtragalus.

H. H I K. The calcanei or heel bones. I the tubercle by which it begins: and into the back and lower part of which is inſerted the tendo Achillis with the tendon of the plantaris muſcle; it is inclined upward and backward when we bend the leg and foot forwards. K the projecting part that ſuſtains the head of the aſtragalus.

L L The cubical bones of the tarſus or ancle.

M M The navicular bones of the tarſus.

N The middle cuneiform bone of the tarſus.

O O The leſs cuneiform bones of the tarſus.

P P The greater cuneiform bones of the tarſus.

Q. R. S. T. V.

Q. R. S. T. V: Q. R. S. T. V. W The bones of the metatarſus or inſtep: Q that of the great toe, R that of the firſt of the ſmall toes, S that of the ſecond, T that of the third, V that of the fourth. W the head of the metatarſal bone of the great toe cover'd with a ſmooth cartilaginous cruſt at its juncture with the bone of the firſt phalanx and ſeſamoide bones. The ſame is alſo true of the other bones of the metatarſus.

X The ſeſamoide bones that are placed at the joint of the great toe with its metatarſal bone.

Y. Z. α: Y. Z. α. β. γ: Δ The bones of the firſt phalanx or order of the great and ſmall toes: Y that of the great toe, Z that of the firſt of the ſmall toes, α that of the ſecond, β that of the third, γ that of the little toe. Δ the round head incruſted with a ſmooth cartilage where it is jointed to the next bone. The ſame likewiſe holds in the reſt of theſe bones.

ε: ε. ζ. η. θ The bones of the ſecond phalanx or order of the ſmall toes, ε that of the firſt toe, ζ that of the ſecond, η of the third, and θ of the little toe.

ι. ι The laſt bones of the great toes.

κ κ: κ. λ. μ. ν The bones of the third and laſt phalanx or order of the ſmall toes, κ that of the firſt. λ of the ſecond. μ of the third. and ν of the little toe.

FINIS.

THE

First Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN this Table are exhibited the outermoſt of the muſcles, juſt as they are ſituated, behind the common integuments and tendinous faſciæ, throughout the whole anterior part of the body; to which we have added ſome of the ligaments belonging to thoſe faſciæ, and to the ſkeleton, or proper to ſome other parts, as thoſe of the noſe, ears, and pudends, which are not covered with muſcles.

In the head, neck and trunk.

a a a b b c d e f g h d. e f g h i k l The Epicranius or muſcle of the ſcalp. a a a the tendinous expanſion betwixt the occipital and frontal muſcles. b b &c. The frontal muſcles. b b the round margins from whence they ariſe. c the conjunction of the frontal muſcles along the middle of the forehead. d-e. d-e the termination of the frontal muſcles at the orbicular muſcles of the eye-lids. e-f. e-f their inflexion along the eye-lids to the greater or inner corners of the eyes, according to the courſe of the orbiculares palpebrarum. g. g the points that inflect themſelves into the greater angles. h. h portions that go to the elevators of the upper lip and wings of the noſe. i the part that runs betwixt the eyebrows, and upon the noſe. k l the conjunction of the frontal muſcles with the compreſſores narium; with which, at k they are interwove, and at l they are continued with them.

m m n o o p q r. m o o p The orbicular muſcles of the eye-lids. m m that part which is expanded round the margin of the orbit of the eye. n the part that comes from the corrugator of the eye-brow. o o the part that is ſpread over the eye-lid. p an intertexture or implication of the fibres which

which coming from the eye-lids meet together near the leſſer canthus or angle. q r the origin of the fibres from the ligament, by which the conjunction of the eye-lids in the greater canthus is tied to the noſe.

s The ligament by which the tarſi, or cartilaginous edges of the eye-lids meeting in the greater canthus, are tied to the noſe, and partly to that origin of it that ſprings from the upper jaw-bone.

t u The compreſſor of the noſtril. t the fleſhy part. u its tendinous expanſion, by which the right and left of thoſe muſcles are conjoined, along the back of the noſe.

w x y. y The elevators of the upper lip and of the noſtril. x that part which goes along the ſide of the noſe to the wing of the noſtril. y that end which is expanded thro' the upper lip and there diſappears.

z A. z The elevators of the upper lip. A the extremity which being extenuated runs thro' the upper lip, and therein diſappears.

B. B Portions which come to the upper lip, from the orbicular muſcles of the eye-lids.

C. C The leſs zygomatics, which being extenuated thro' the upper lip, diſappear.

D D. D The elevators of the corners of the mouth. D D continues itſelf partly to the depreſſor of the angle of the mouth, and partly bends itſelf round the ſaid angle to the lower lip, and there it forms the outer part of the orbicular muſcle of the mouth.

E F G. E The greater zygomatics. F the origin from the os jugale. G the lower extremity continued to the depreſſor of the angle of the mouth.

H. H The naſal muſcles of the upper lip. Here may be ſeen its origin from the noſe, and the manner in which it is inſerted into the orbicular muſcle of the mouth.

I Part of the orbicular muſcle of the mouth in the upper lip, where it goes round the angle of the mouth it receives a portion from the elevator of the angle (D D) which paſſes round with it.

K K Part of the orbicular muſcle of the mouth which is in the red margin of the lips.

L L Thin faſciculi or expanſions, that come partly from the greater zygomatics, extended hither; and partly from the depreſſors of the corners of the mouth, they croſs the faſciculi of the ſubjacent depreſſors of the lower lip.

M. M N The depreſſors of the lower lip, which decuſſate or traverſe each other at N.

O P The elevators of the chin. P fibres that intermix with the fat of the chin.

Q R R S. Q The depreſſors of the corners of the mouth. R R its origin from the lower jaw. S its continuation to the greater zygomatic.

T The buccinator, or trumpet-muſcle.

V W X Y. V The maſſeters. V the anterior and outer part. W the origin of part of it from the os jugale. X the poſterior part which is naked before. Y the origin of this poſterior part from the os jugale, and from the jugal proceſs of the temporal bone.

Z The

Ζ The anterior muſcle of the outer ear.

Γ Δ The elevator of the outer ear. Γ its tendinous beginning by which it goes off from the epicranius. Δ the fleſhy part.

Θ The greater muſcle of the helix.

Λ The muſcle of the tragus.

Ξ The leſs muſcle of the helix.

Π The antitragicus muſcle.

Σ The digaſtric muſcle of the lower jaw.

Φ The ſternomaſtoide and cleinomaſtoide muſcles conjoined together into one.

Ψ Ψ Part of the cucullares muſcles.

Ω α α α β β β γ γ δ ε ε ζ η θ. Ω α α α ζ η θ The quadratus genæ or broad muſcle of the neck. α α α its origin conſiſting of thin and ſcattered faſciculi. β β β faſciculi or fibres that in ſome people are detached to the ſide of the neck. γ γ ſcattered fibres which diſappearing in the cheek terminate this muſcle. δ a faſciculus that is extended towards the angle of the mouth, over the forepart of the depreſſor of that angle. ε ε the lower jaw projecting under this thin and broad muſcle of the neck (ζ. η. θ) in like manner the ſternomaſtoideus ζ, and cleinomaſtoideus η, with the clavicle θ appear protuberant under this muſcle.

ι. ι The ſternohyoidei muſcles.

κ. κ The aſpera arteria or wind-pipe.

λ μ. μ The ſternomaſtoidei. μ the tendinous beginning ariſing from the ſternum.

ν. ν The ſternothyroide muſcles.

ξ ο ο π ρ ς ς. ξ ο ο π ρ ς ς The pectoral muſcles. ο ο its origin from the ſternum. π from the cartilage of the ſixth rib. ρ from the ſeventh, by a beginning that is for ſome way thin and tendinous. ς a coheſion with the aponeuroſis of the oblique external muſcle of the abdomen. ς a part of this muſcle coming from the aponeuroſis of the external oblique muſcle; which part is in this ſubject thin and tendinous, in others it is thicker and fleſhy, varying its condition in various bodies.

σ σ The teres major.

τ υ φ. τ υ φ The latiſſimi dorſi. υ. φ two heads ariſing, the former from the tenth, and the latter from the ninth rib.

χ ψ ω a b c c c c. ψ ω a b c c c c The ſerrati magni, vel antici inferiores. χ the head ariſing from the fifth rib, ψ that from the ſixth rib, ω from the ſeventh, a from the eighth, b from the ninth. c c c c the origin of the heads themſelves from the ribs.

d e f g h i k k k k l l l m m n o o o p p p p q r r r r f s t u v v w w x. d e f g h k k k k l l l m m n o o o p p p p q r r r r f s t u v v w w x, The external oblique muſcles of the abdomen. d the fleſhy part. e the head ariſing from the ſixth rib, f from the ſeventh, g from the eighth, h from the ninth, i from the tenth. k the origin of the heads themſelves from the ribs. l l l m m n o o o p p p p q r r r r f s t u v v w w x its aponeuroſis or tendinous expanſion, under which, at m m, is protuberant the fleſh of the internal oblique muſcle, and under the aponeuroſes of both theſe, at n pro-

tuberates

tuberates the fleſh of the tranſverſe muſcle. Here the recti o o o, and their innervations p p p p appear thro' the ſaid aponeuroſes, and under the ſame at q, protuberates the pyramidal muſcle. r r r r the linea alba, into which the aponeuroſes of the oblique external muſcles are continued, and croſs each other, and are conjoined to the ſubjacent ones. ſ an aponeuroſis inſerted into the breaſt bone. The part s may be ſaid to belong either to the aponeuroſis of the oblique external, or to the pectoral muſcle; and ſo either to ariſe from the cartilage of the ſeventh rib, or to be inſerted into it. t an opening in the linea alba thro' which in the fœtus paſs out the umbilical arteries, the umbilical vein, and urachus. u the bottom of the tendinous margin that is extended from the ſpine of the ilium to the pubes. v v. w w the two parts into which the aponeuroſis ſplits itſelf, and continues diſtinct from thence to the pubes under the appearance of a tendon, wherein is an aperture thro' which paſſes out the chord of the ſpermatic veſſels with the cremaſter muſcle. x a thin expanſion continued from one tendon to the other, and connecting them together. Under this expanſion the ſpermatic chord paſſes along a little protuberant and conſpicuous through it; till at length the ſaid chord comes out from beneath the expanſion thro' an oblique ring or aperture near the pubes; which ring is ſmall and formed betwixt the expanſion x, the tendons v v. w w and the os pubis. Laſtly, the fibres of the aponeuroſis that are expanded under the appearance of fleſh or muſcle decuſſate other ſmall and thin tendinous fibres; as ſufficiently appears from the figure, and from both thoſe kinds of fibres is formed the expanſion x, that runs from one tendon thro' the other.

y. y The naked chords of the ſpermatic veſſels.

z. z The cremaſter muſcles.

In the lower extremities.

A. A The glutei maximi.

B. B The gracicles.

C. C The great abductors of the triceps of each thigh.

D. D The long abductors of the triceps of each thigh.

E. E The pectinei muſcles.

F. F The great pſoas or lumbal muſcle of the thigh coming out of the abdomen.

G. G The internal iliac muſcles.

H I. H I The Sartorius or Taylor's muſcle. I its origin which is outwardly tendinous from the ſpine of the ilium.

K L. K The glutei medii. L its origin from the ſpine of the ilium.

M N O. M N O The faſciales or extenſors of the aponeurotic faſciæ of the thighs. N its origin from the ſpine of the ilium. O its extremity from, when the tendinous part is cut off that joins the faſcia or vagina of the thigh.

P Q R S. P Q R S The vaſti externi. Q the tendinous part. R the lower tendon, inſerted into the patella at S.

T V W X. T V W X The recti or ſtraight muſcles of the thighs. V the tendon inſerted into the patella or knee-pan bone. W the place where the tendon inſerts itſelf into the patella. X an aponeuroſis that runs over the patella

patella from the rectus, and afterward joins itself to the fore part of the ligament that ties the patella to the tibia.

Y Z Γ. Y Z Γ The vasti interni. Z the tendon of its end, inserted into the patella at Γ.

Δ Θ Λ. Δ Θ Λ The ligament that ties the patella to the tibia. Θ the part where it arises from the patella. Λ the whole space by which it is inserted into the tibia below.

Ξ Π Σ. Ξ Π Σ Part of the biceps muscle of each leg. Π Σ its tendinous end, of which the principal part Π is inserted into the head of the fibula; Σ the part which belongs to the tibia.

Φ Ψ Ω. Φ Ψ Ω The sartorius (H). Ψ the tendon which is inserted into the tibia at Ω.

α. α Lower end of the semitendinosus, or seminervosus.

β γ δ. β γ The gemelli or gastroknemii. β aponeurosis. δ the tendon.

ε ζ ζ η. ε ζ ζ η The solei. ζ ζ the origin from the tibia. η the tendinous surface.

θ ι ι κ. θ ι ι κ The long flexors of the toes. ι ι the origin from the tibia. κ the beginning of the tendon.

λ. λ The tendons of the tibiales postici.

μ. μ The tendons of the plantares musculi.

ν ν. ν The great tendons of the heel, call'd Achillis.

ξ. ξ The solei muscles.

ο π ϱ. ο π ϱ The peroneus longus. π its origin from the head of the fibula. ϱ the tendon arising from the outer part of its fleshy body.

σ. σ The peroneus brevis.

τ υ. τ υ The long extensors of the toes conjoined into one with the peronei tertii. υ the origin from the tibia.

φ χ χ. φ χ χ The peronei tertii. χ χ the tendon on the leg and foot.

ψ ω a b c. ψ ω a b c The long extensors of the toes. ψ the tendon which is divided into four other tendons ω a b c running over the back of the foot and on the small toes.

d e f g h These letters are engraved only upon the first of the small toes of the right foot (there not being room enough for them on the other small toes of each foot); but from this one, the corresponding parts of the rest may easily be understood. d the common tendon of the long and short extensor of the toes, inserted into the bone of the second phalanx. e the tendon running to the bone of the third or last order, which tendon comes from the short extensor of the toes; but there is no such tendon goes to the little toe. f part of the common tendon of the long and short extensor, running to the third or last bone. g the common end of the two tendinous portions belonging to the third bone, into which they are inserted. h the aponeurosis that joins the tendon d, coming partly from the capsula of the joint of the toe with its metatarsal bone, partly from the tendon of the interosseus and lumbrical muscle of this side, and in part from the side of the bone of the first phalanx.

i i i k. i i i k The tendons of the extensors proper to the great toes. k the end inserted into the last bone of the great toe.

l l l. l l l Branches of the tendons of the extenſors proper to the great toes, which are ſometimes found.

m. m Aponeuroſes which the tendons proper to the great toes receive from the capſules of the joints of the ſaid toes with their metatarſal bones.

n o o p p p. n o o p p p The tibiales antici. o o the origin from the tibia. p p p the tendon.

q r s t. q r s t The ligaments that cover and confine the tendons at the bottom of the leg, and on the back of the foot. r the upper horn affixed to the tibia at s. t the lower horn.

u w. u w The ligaments that retain the tendons near the inner ancles. w its origin from the ſaid ancle.

x x The ligaments that retain the tendons of the tibiales poſtici.

y y. y The tendons of the tibiales poſtici inſerted partly into the navicular bones, and running partly to the greater cuneiform bones.

z. z The muſcular heads which ariſe from the calcanei or heel-bones and go to the long flexors of the toes in the ſoles of the feet.

A B C. A B C The abductors of the great toes. B the origin from the ſide of the heel bone. C the tendon.

D D The ſhort flexor muſcles of the great toes.

E E The ſhort flexor muſcles of the other toes.

F F. F The tendons of the long flexors of the great toes.

G The tendon of the long flexor of the great toe in the left foot, where it paſſes under the firſt phalanx, confined in a tendinous ſheath that ſplits into two horns.

H I K. H I The ſhort extenſors of the toes. H a part belonging to the great toes. I a portion running to that ſide of the firſt of the leſs toes which is next the great toe; ſometimes found. K a portion belonging to the firſt of the leſs toes.

L L. The firſt of the interoſſei muſcles, belonging to the firſt of the ſmall toes.

In the upper extremities.

M N O P Q. M N O Q The deltoide muſcles. M the firſt portion of the anterior order of faſciculi that compoſe this muſcle. N the firſt of the lateral order. O P the third portion of the firſt or anterior order. P its origin from the acromion or upper proceſs of the ſcapula. Q the middle portion of the ſecond order.

R S The coracobrachiales, at the part R they are conjoined with the lower head of the biceps muſcle of the arm.

T. T The long portions of the triceps muſcles of the arms.

V. V The ſhort portions of the triceps muſcles of the arms.

W X Y Z Γ. W X Y Z Γ The biceps muſcles of the arms. W the longer head. X the ſhorter head. Y the common belly. Z the aponeuroſis that gives the tendinous faſcia to the fore arm, here cut off. Γ the tendon by which it is inſerted into the radius.

Δ Θ. Δ Θ Portions of the triceps muſcles of the arms, which are commonly call'd the brachiæi externi. Θ a tendon which ariſing from the ſurface, the ſaid brachiæus goes to the poſterior condyle of the humerus.

Λ Λ Λ. Λ Λ Λ The brachiæi interni muſcles.

Ξ The ſhort ſupinator muſcle of the radius.

Π Σ. Π Σ The long ſupinators. Σ the tendon.

Φ Φ The round pronators of the radius.

Ψ Ω. Ψ Ω The radiales interni. Ω the tendon.

α β γ δ ε ε ε ε ε ε ε ε. α β The palmares longi. β the tendon. γ δ ε ε ε ε ε ε ε ε its aponeuroſis or tendinous expanſion, firſt ſlightly diſtinguiſhed into four portions, which become afterwards more diſtinct and ſtrengthened by tranſverſe tendinous fibres. δ the portion which it ſends off to the ſhort abductor of the thumb. ε. ε. ε. ε. ε. ε. ε. ε the extremities which this aponeuroſis ſends to the roots of the fingers.

ζ η θ ι κ λ λ λ μ. ζ ζ ζ The ſublimes. η θ a portion that belongs to the middle finger; θ the tendon. ι κ the portion that belongs to the ring finger; κ the tendon. λ λ λ the portion to the index. μ the portion to the little finger.

ν ξ ο The ulnaris internus. ξ the tendon, inſerted into the piſiform bone of the wriſt ο.

π ρ. π The long flexors of the thumbs. ρ the tendon.

σ The tendon of the profundus that goes to the index.

τ The pronator quadratus.

υ. υ The ligaments under which paſs the tendons of the long abductors and leſs extenſors of the thumbs.

Φ χ ψ ω b b. χ ω ω a b b The long abductors of the thumbs. χ the upper part. ψ the lower part. ω ω the tendon of the upper part. a the portion which it ſends off to the ſhort abductor of the thumb. b b the tendon of its lower part.

c d. c d The leſs extenſors of the thumbs. d the tendon.

e The outer part of the armillary or round ligament.

f g g g g h The longer external radialis muſcle. g g g g h the tendon inſerted into the metacarpal bone of the index at h.

i The tendon of the leſs radialis externus longior.

k k l l l l The ſhorter radialis externus, l l l l the tendon.

m n o p q The common extenſor of the fingers. n o the portion that belongs to the index, of which o denotes the tendon. p the tendon to the middle finger. q the tendon to the ring finger.

r s The extenſor proper to the little finger. s the tendon. In the left hand.

t The aponeuroſis by which the tendon of the index o, and that of the middle finger p are conjoined together. By like aponeuroſes alſo are conjoined the tendons of the middle and ring-finger, of the ring and little finger: but theſe, as well as the conjunctions and diviſions of the tendons of the common and proper extenſor of the little finger are not marked with letters; becauſe the whole may be better underſtood from the firſt of the back views, which makes the fifth muſcular table.

u u The tendon of the indicator muſcle.

w The firſt or outermoſt interoſſeus muſcle of the index.

x The abductor of the index.

y The

y The tendon of the greater extenſor of the thumb.

z The oppoſing muſcle of the thumb.

A B The common tendon of the greater and leſs extenſor of the thumb, inſerted into the laſt bone or phalanx at B.

C The aponeuroſis that inveſts the capſule of the joint of the thumb with its metacarpal bone, adhering to the ſaid capſule and to the tendon of the common extenſor of the thumb.

D The poſterior tail of the ſhort flexor of the thumb.

E The aponeuroſis which the poſterior tail of the ſhort flexor of the thumb ſends to the tendon of the common extenſor of the thumb.

F G The abductor of the thumb. G the tendinous end inſerted into the firſt bone of the thumb.

H The aponeuroſis which ariſing partly from the firſt lumbrical and abductor muſcle of the index, joins itſelf to the tendon of the common extenſor of the index.

I The tendon of the firſt lumbrical muſcle.

K L The common tendon of the indicator and extenſor muſcles belonging to the index.

M The tendon of the firſt lumbrical muſcle, enlarged by a portion it receives from the common tendon of the extenſors of the index, and running to the third or laſt bone of that finger.

N The tendon of the poſterior interoſſeous muſcle of the index, which being increaſed by a portion received from the common tendon of the extenſors of the index, goes on to the third bone or phalanx of the index.

O The common end of the tendons M and N, inſerted into the third bone of the index, formed by the tendons of the interoſſei muſcles (M N) conjoined into one.

P P The tendons of the common extenſor of the fingers, where they deſcend over the backs of the fingers, with the aponeuroſis they receive.

Q The common tendon of the extenſors of the little finger, deſcending over the back of that finger.

R A tendon common to the outer interoſſeous muſcle of the middle finger and ſecond lumbrical muſcle; which tendon being augmented by a portion it receives from the tendon of the common extenſor, runs down to the laſt or third bone.

S A tendon of the ſublimis muſcle.

T A ligament that inveſts the tendon of the profundus together with the extremities of the tendon of the ſublimis.

V A tendon of the profundus.

The ſame (S T V) alſo holds in the other three fingers, in which the parts being very ſmall are not marked with letters.

In the right hand. W W The ligament of the carpus that with the hollow of the wriſt forms a canal that holds and confines the tendons which go to the fingers and thumb from the ſublimis, profundus, and long flexor of the thumb.

X The opponent muſcle of the thumb.

Y Z Γ Δ The ſhort abductor of the thumb. Z its origin from the ligament of the wriſt. Γ part of its tendinous end inſerted into the firſt bone of the

the thumb. Δ tendinous fibres which paſs over the back of the thumb, and join to the other part of the tendon of the extenſors of the thumb, and continues itſelf to a like aponeuroſis of the ſhort flexor of the thumb.

Θ The common tendon of the extenſors of the thumb.

Λ Part of the ſhort flexor of the thumb, which may be reckon'd another ſhort abductor of the thumb: its tendinous end being inſerted into the firſt bone of the thumb.

Ξ Ξ Π The tendon of the long flexor of the thumb in a manner ſplit in two. Π the end that belongs to the laſt bone of the thumb.

Σ The ligament by which the tendon of the long flexor of the thumb is retained upon the firſt phalanx; which ligament is oblique and ſimple at firſt, but is afterwards divided, or ſplit into two extremities.

Φ the poſterior tail of the ſhort flexor of the thumb.

Ψ The abductor of the thumb.

Ω The firſt lumbrical muſcle.

a The anterior or outer interoſſeous muſcle of the index.

b The abductor of the index, its tendinous end being inſerted into the firſt bone of the index.

c d e The abductor of the little finger. d its origin from the ligament of the carpus, and from the round or piſiform bone of the wriſt, e.

f The abductor of the metacarpal bone of the little finger.

g g The palmaris brevis, or ſquare muſcle of the palm.

h The ſmall flexor of the little finger.

i The fourth lumbrical muſcle.

k The third lumbrical muſcle.

l The ſecond lumbrical muſcle.

m The former interoſſeous muſcle of the middle finger.

n The former interoſſeous muſcle of the ring finger.

o The former interoſſeous muſcle of the little finger.

p The common tendon of the ſmall flexor, and abductor of the little finger.

q The common tendon of the fourth lumbrical, and former interoſſeous muſcle of the little finger.

r The tendon of the poſterior interoſſeous muſcle of the ring finger.

s The common tendon of the third lumbrical, and former interoſſeous muſcle of the ring-finger.

t The tendon of the poſterior interoſſeous muſcle of the middle finger.

u The common tendon of the ſecond lumbrical, and former interoſſeous muſcle of the middle finger.

v The tendon of the poſterior interoſſeous muſcle of the index.

w The tendon of the firſt lumbrical muſcle.

x The tendon of the ſublimis: by the ſide of which, next the thumb, is a tendon of the profundus, on which there is not room for a letter to be marked.

y z A tendon of the profundus, ſplit as it were lengthwiſe, and inſerted into the third bone or phalanx.

2 2 The two horns or tails of a tendon of the ſublimis.

3 The ligament that inveſts the tendons of the ſublimis and profundus as they paſs along the firſt bone or phalanx: which ligament is fixed on each ſide of the margin of the ſaid firſt bone.

4 4 4 Three ſmall ligaments which retain the tendons of the ſublimis and profundus, near the joint of the finger, with its metacarpal bone; they are thick and continued to each other, and to the next ligament, 3, by thin tendinous fibres.

5 The ligament that inveſts the tendon from the profundus, and the extremities or tails of the ſublimis tendon, about the middle of the length of the ſecond bone or phalanx; which ligament is affixed on each ſide to the margin of the ſecond bone.

The ſame parts (x. y z. 2 2. 3. 4 4 4. 5.) are likewiſe in the reſt of the fingers; and are ſufficiently apparent, altho' they are not marked with letters.

The parts of the Skeleton which appear betwixt the muſcles are not marked with explanatory letters; ſince they may eaſily be underſtood from the firſt table of the Skeleton, in which the figure is plainly the ſame, and makes the baſis or back-foundation of this; to the bones of which Skeleton the muſcles are inſcribed to form this and the other muſcular tables.

THE

Second Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MOST of the primary or outermoſt muſcles contained in the firſt Table, being here taken away; we exhibit in the preſent figure the next order of muſcles, together with ſome of the ligaments and naked parts of the Skeleton, which make the foundation of thoſe muſcles.

The parts taken off from this figure are from the *head*, the epicranius, the elevator and anterior muſcle of the outer ear, with the ear itſelf.—From the *face*, the orbiculars of the eye-lids, the compreſſors of the noſtrils, the elevators of the upper lip and ſides of the noſe, the elevators proper to the upper lip, the portion detached from the orbiculars of the eye-lids to the upper lip, the greater and leſs zygomatics and the depreſſors of the corners of the mouth.—From the *neck*, the latiſſimus or quadratus, and the cucullares.—From the *trunk*, are taken the pectorales, latiſſimi dorſi muſcles, and oblique external ones of the abdomen with the penis.—From the *thighs*, the extenſors of their tendinous coverings, with the Taylors and ſtraight muſcles of the thighs and legs.—From the *legs* and *feet* are taken, the gaſtrocknemii, the tibiales antici, the ligaments that confine the tendons at the bottom of the leg and upon the back of the foot, the ligaments that retain the tendons near the inner ancles, the ligaments that retain the tendons of the tibiales poſtici, the abductors of the great toes, the aponeuroſes which the tendons of the extenſors proper to the great toes receive from the capſules of the joints of thoſe toes with their metatarſal bones.—From the *arms* are taken the deltoide muſcles. From the *fore-arms* and *hands* the long ſupinators, the round pronators, the internal radials, the palmares longi, the ligaments under which paſs the tendons of the long abductors and leſs extenſors of the thumbs. Alſo from the right hand are taken the ſhort abductor of the

thumb, the ligaments which retain the tendon of the long flexor of the thumb, the palmaris brevis, the ligaments confining the tendons of the ſublimis and profundus where they paſs along the fingers. Alſo from the left fore-arm and hand are taken, the common extenſor of the fingers, the extenſor proper to the little finger, the outer part of the round or carpal ligament, and the ligaments which confine the tendons of the ſublimis and profundus in the fingers.

In the head, neck, thorax, and ſhoulders.

a b. a b The corrugators of the eye-brows. b their origin from the os frontis.

c d e. c d e The elevators of the upper eye-lids. c the fleſhy part. d e the part that is like a thin tendinous expanſion, ſpread over the tarſus, which makes it project out in the part e.

f f f. f &c. The membranous part of the eye-lids.

g The ligament that ties the meeting of the eye-lids, in the greater canthus, to the naſal proceſs of the upper jaw-bone. The ſame is alſo in the other ſide of the face.

h h. h h Some continuations of the orbicular muſcles of the eye-lids, ariſing from the extremity of the aforeſaid ligament, and ſpread round the margin of the eye-lids in one continued courſe.

i k l m n The temporal muſcles. k l m the firſt beginning of its origin, from the os frontis at k, from the parietal bone at l, and from the temporal bone m. n its tendon.

o p q r s t u w w x. r The maſſeters. o the back part, where it is not covered, ariſing from the zygomatic proceſs of the temporal bone p, and from the os jugale q. r the anterior and outer part. s its tendinous beginning. t u its origin from the upper jaw-bone t, from the os jugale u. w w its tendinous ending, the extremity of which x is inſerted into the lower jaw.

y The digaſtric muſcle of the lower jaw.

z The buccinator muſcle.

A The external pterygoide muſcle.

B C D E. B The elevators of the corners of the mouth. C its origin from the upper jaw. D the part where it joins to the naſal portion of the upper lip, and by which it joins the ſphincter of the mouth. E the part by which it is continued to the depreſſor of the corner of the mouth, which is cut off near this part.

F The depreſſor of the wing of the noſtril into which it is inſerted: part of the right is alſo viſible.

G. G The naſals of the upper lip: in which may be ſeen the manner of their ariſing from the noſe, and joining to the ſphincter of the mouth.

H I I The ſphincter of the mouth. H that part which is in the upper lip. I I the part in the red margin of the lips.

K L. K M The depreſſors of the lower lip. L the origin from the jaw. M the part where the right and left croſs each other.

N O The elevators of the chin. O fibres which mix with the fat of the chin.

P The

P The digaſtric muſcle of the lower jaw.
Q The mylohyoidei, inſerted into the os hyoides.
R The ſtylohyoideus muſcle.
S The baſiogloſſus muſcle.
T The ceratogloſſus muſcle.
V A ligament extended from the end of the horn of the os hyoides to the upper proceſs of the thyroide cartilage, which it ties to the ſaid horn.
W The ſtylopharingeus muſcle.
X The lower conſtrictor of the pharynx.
Betwixt W and X is the upper proceſs of the thyroide cartilage.
Y Z. Y The hyothyroidei. Z the origin from the os hyoides.
α α β. α α β The coracohyoidei. β the end inſerted into the baſis of the os hyoides.
γ γ γ δ. γ γ γ δ The ſternohyoidei. δ the end inſerted into the baſis of the os hyoides.
ε ε ε ε. ε ε ε The ſternothyroidei muſcles.
ζ The wind-pipe or trachia.
η θ ι κ λ μ. η θ ι κ λ ν The ſternal and clavicular portions of the maſtoide muſcle conjoined. η θ the ſternal part or ſternomaſtoideus. θ its origin from the ſternum by a tendon, and afterwards tendinous. ι κ the clavicular portion or cleidomaſtoideus. κ its origin from the clavicle. λ the conjunction of them both together into one. μ the inner ſide of them. ν the end which is inſerted tendinous into the maſtoide proceſs.
ξ The greater internal ſtraight muſcle of the head.
ο ο. ο The middle ſcaleni.
π π The elevators of the ſhoulder blades.
ρ ρ The anterior ſcaleni where they ariſe from the firſt ribs.
σ ς ς ς. σ ς ς ς The ſubclavian muſcles. ς their tendinous origin from the cartilaginous end of the firſt rib, the aponeuroſis running along the lower ſide of the muſcle. ς ς the end which is inſerted into the clavicle.
υ φ χ ψ ω Γ Δ Θ. υ φ χ ψ ω Γ Δ Θ The anterior and upper ſerrati muſcles. φ the tendinous end that is inſerted into the coracoide proceſs of the ſcapula; the aponeuroſis of which tendon begins to appear firſt in the margin of the muſcle towards the axilla. χ ψ ω Γ Δ Θ the three heads. χ the fleſhy part of the firſt head. ψ the thin tendinous part ariſing from the upper ſide of the bony and cartilaginous end of the third rib. ω the fleſhy part of the ſecond head ariſing in an oblique courſe from the whole breadth of the fourth rib while its thin tendinous part Γ, ariſes from the bony and cartilaginous end of the ſame rib. Δ Θ the third head; Θ the thin tendinous part ariſing from the upper ſide of the bony end of the fifth rib.
Λ Λ Ξ Π. Λ Λ Ξ The ſubſcapular muſcles. Ξ the tendinous part of its end, inſerted into the leſs protuberance of the upper head of the humerus; Π the fleſhy part, inſerted into the humerus itſelf below the ſaid protuberance.
Σ. Σ The teres major on each ſide.
Φ The tendinous end of the latiſſimus dorſi joined with the teres major and inſerted into the os humeri.

In the trunk.

♆ Ω A B C D E F G. ♆ A B C D E F G The greater anterior and lower ſerratus muſcle. ♆ the part that ariſes from the ſecond rib. Ω the head ariſing from the third rib. A the head from the fourth. B from the fifth. C from the ſixth. D from the ſeventh. E from the eighth. F from the ninth. G from the tenth rib.

H H, &c. The origin of its heads from the ribs.

I I, &c. The conjunction of its heads with the outer intercoſtals.

K K, &c. The outer intercoſtal muſcles.

L L, &c. The internal intercoſtal muſcles.

M N O O P Q R R S T U V V. M N O O P Q R R S T U W W W W X X X Y The internal oblique muſcles of the abdomen. M N O O P Q R R the fleſhy part. N its origin from the ſpine of the ilium. O O the edge of it coming from the tendinous margin of the external oblique muſcle of the abdomen. P the part under which runs the chord of the ſpermatic veſſels, a little protuberating and conſpicuous thro' it. Q the part under which the pyramidal muſcle appears protuberant. R R the fleſhy part inſerted into the tenth rib. S T the aponeuroſis which is ſimple in this part. T the aponeuroſis inſerted into the cartilage of the ninth rib. U the fleſhy part of the tranſverſe muſcle protuberant under this aponeuroſis. V V the anterior of the two plates cut off into which this aponeuroſis S, ſplits itſelf, near the rectus. W W W W X X X Y the anterior of the two plates into which the left aponeuroſis S divides near the rectus: this lamella is cut off according to the length of the abdomen, juſt by where it firſt joins to the aponeuroſis of the external oblique muſcle. W W W W X X X the rectus here appears protuberant under the aponeuroſis, divided into fleſhy portions W W W W, by tendinous lines X X X. The pyramidal muſcle appears alſo protuberant under a part of this aponeuroſis at Y.

Z Z Z Z Z a b c d e f g. Z Z Z Z a b c d e f g The ſtraight muſcles of the abdomen. a. b. c their ends, inſerted into the fifth rib at a, the ſixth at b, and the ſeventh at c. d. e. f. g the tendinous lines. h i the white line. i an opening in that line thro' which paſs out, in the fœtus, the umbilical arteries and vein with the urachus.

k k. k k The aponeuroſes of the external oblique muſcles here cut off, together with the anterior of thoſe lamellæ into which the tendons of the internal oblique muſcles divide themſelves.

l m. l m The pyramidal muſcles. m their beginning from the ligaments by which the oſſa pubis are tied together before, at their ſynchondroſis.

n The ſynchondroſis of the oſſa pubis, tied by its ligaments.

o The penis cut off.

p q. p q The cremaſters. q their beginning which goes off from the fleſh of the internal oblique muſcle.

In the lower extremities.

r. r The chords of the ſpermatic veſſels.

s t. s t The middle gluteus. t its origin from the ſpine of the ilium.

u v w. u v w The leaſt of the glutei. v the origin from the ſpine of the ilium. w the tendon inſerted at the root of the greater trochanter.

x x The beginning of the ſtraight muſcles of the thighs cut off.

y y The internal iliacs.

z z The great pſoæ, or lumbal muſcles of the thighs.

Γ Γ The pectinei muſcles of the thighs.

Δ Θ. Δ Θ The long abductors of the thighs. Θ its origin from the ligaments that tie the ſynchondroſis of the oſſa pubis.

Λ Ξ. Λ Ξ The gracilis. Ξ its origin from the ligaments that tie the ſynchondroſis of the oſſa pubis.

Π Π The great abductors of the thighs.

Σ Φ Ψ Ψ Ω α. Σ Φ Ψ Ψ Ω α The internal vaſti. Φ the origin from the femur. Ψ Ψ the part where it joins to the tendon of the cruralis. Ω the tendon, which is inſerted into the patella at α. In this muſcle, near the crureus, is an impreſſion from the rectus.

β γ. β γ The crurei muſcles. γ the tendon.

δ ε ε ζ η η θ. δ ε ε ζ η η θ The external vaſti. ε ε the origin from the thigh bone. ζ part of the tendinous beginning. η η the tendon, inſerted into the patella θ. Near the crureus is a conſiderable impreſſion made in this muſcle by the rectus. See Tab. I.

ι κ λ. ι κ λ The tendons of the ſtraight muſcles of the thighs cut off. κ the place where it is inſerted into the patella. λ the aponeuroſis which runs from the tendon of the rectus over the fore part of the patella to the ligament that ties the patella to the tibia; afterwards joining itſelf to the fore part of the ſaid ligament.

μ ν ξ. μ ν ξ The ligament that belongs to the tibia from the patella. ν the place where it ariſes from the patella. ξ in this part it is fix'd to the tibia beneath.

ο π. ο π The tendons of the graciles, inſerted into the tibia at π.

ρ. ρ The tendons of the ſemitendinoſi inſerted into the tibiæ.

σ. σ The poplitei muſcles.

ς ς τ. ς ς τ The biceps in each thigh. ς τ its tendinous extremity, ς its principal part inſerted into the head of the fibula; τ the part that belongs to the tibia.

υ. υ The ſolei muſcles.

φ χ ψ. φ χ ψ The long peronei muſcles. χ the origin from the head of the fibula. ψ the tendon ariſing from the outer part of the muſcular fleſh.

ω. ω The ſhort peronei muſcles.

A B C D E. A B C D E The long extenſor of the toes of each foot, with the third peronei muſcles. A the muſcular fleſh common to the extenſor and peroneus; B its origin from the tibia. C the third peroneus, D its tendon. E the tendon of the long extenſor of the toes, which divides into four tendons, belonging to the four ſmall toes, of which that belonging to the little toe ariſes ſooner and upon the leg itſelf, but the reſt ariſe where they are about to paſs the ligament q. in Tab. I. Where the long extenſor and peroneus are joined, there is a conſiderable impreſſion from the tibialis anticus. See Tab. I.

F G G. F G G The tibiales poſtici. F the part that comes from the fibula. G G the part ariſing from the tibia.

H I K L M.

H I K L M. H I K L M The proper extenſors of the great toes. I the tendon, inſerted into the laſt bone of the ſaid toe. L M a branch of the tendon which I have ſometimes found, inſerted into the firſt bone of that toe.

N O O P. N O O P The ſolei. O O the origin from the tibia. P the tendinous ſurface, where the tendon ariſes.

Q R R S. Q R R S The long flexors of the toes. R R the origin from the tibia. S the beginning of the tendon.

T. T The tendon of the plantaris in each leg.

V V W X. V V W X The tendons of the tibiales poſtici. W the end that is inſerted into the navicular bone, and runs in part to the greater cuneiform bone.

Y Y The great tendons, call'd Achillis.

Z Z The tendons of the long flexors of the toes.

a b. a b Muſcular heads which go to the long flexors of the toes in the ſole of the foot. b the origin from the calcanium.

c d. c d The ſhort flexors of the toes, ariſing from the calcanium at d.

e The outer tail of the ſhort flexor of the great toe.

f f g. f f The tendons of the long flexors of the great toes. at g it is confined in a ligamentary ſheath, that is ſplit into two horns.

h. h The firſt interoſſei belonging to the firſt of the ſmall toes.

i k l. i k The ſhort extenſors of the toes. i the part that belongs to the great toe. k a portion running to that ſide of the firſt toe that is next the great toe, ſometimes found. l the portion belonging to the firſt of the ſmall toes.

m n o p q. m The common tendon of the long and ſhort extenſor of the toes, that is inſerted into the bone of the ſecond order. n a portion of the common tendon of the long and ſhort extenſor running to the third bone. o a tendon from the ſhort extenſors of the toes, to the third bone. p the common end of the two portions belonging to the third bone into which it is inſerted. q an aponeuroſis joining the tendon m, in part from the capſule of the joint of the toe with its metatarſal bone, and in part from the lumbrical muſcle and ſide of the bone of the firſt order. The ſame is to be underſtood of the reſt of the toes in each foot: except, that there is no portion from the ſhort extenſor of the toes, detached to the tendon of the little toe.

In the arms.

r s. r s The ſupraſpinati. s the tendon inſerted into the great and rough tubercle of the humerus.

t. t The common origin of the coracobrachialis and ſhorter heads of the biceps muſcles of the arms, from the coracoide proceſſes of the ſhoulder blades.

u u The coracobrachiales, in the part v v. v v conjoined with the ſhorter heads of the biceps muſcle of each arm.

w x y z α β γ. w x y z α β γ The bicipital muſcles of the arms. w x the ſhorter head. w the part that is outwardly tendinous, x the fleſhy part. y z the longer head; y the tendon by which it ariſes running over the head of the humerus, and then thro' the ſinus that is betwixt its two protuberances.

protuberances. z the fleſhy part. α the common belly. β the aponeuroſis, which it gives to the tendinous vagina of the fore-arm, here cut off. γ the tendon by which it is inſerted into the radius.

δ ε ζ η. δ ε ζ η The triceps extenſor of each arm. δ the ſhort head, ε the long head. ζ the brachialis externus. η the tendon which ariſing from the ſurface of the brachialis externus, belongs to the poſterior condyle of the humerus.

θ θ ι κ. θ θ ι κ The internal brachiei muſcles. ι the lower part that lies near the ſupinator longus. κ the tendinous ſurface.

λ μ The longer external radialis muſcle of the right arm. μ the tendon.

ν ξ ο π ρ The longer external radialis muſcle of the left arm, here dividing itſelf into two, each of which form a tendon. ξ the principal tendon of the chief part. ο the tendon of the leſs part which joins itſelf to the other tendon. π the common tendon, inſerted into the metacarpal bone of the index.

σ ς. σ σ ς ς The ſhorter radiales externi. ς the tendon inſerted into the metacarpal bone of the index and middle finger.

τ τ ς υ φ. τ φ The ſhort ſupinators. ς υ the end inſerted into the root of the tubercle of the radius, and into the radius itſelf below that tubercle. φ the poſterior part.

χ. χ χ The profundi muſcles bending the fingers.

ψ The round pronator of the radius cut off.

ω. ω The common origins of the ulnares interni and ſublimes; ariſing tendinous from the greater condyles of the humeri.

A. A A B The ulnares interni. B the tendon inſerted into the piſiform bone.

C D E F G H I I K L M N N O O P Q Q. C D E F H I M N The Sublimes. D the thicker part ariſing from the greater condyle of the humerus. E the portion ariſing by a ſmall tendon from the ulna, near the end of the internal brachialis. F G the thinner part ariſing from the radius, G its origin from the radius. H I I a portion belonging to the ring-finger, I I its tendon. K L the portion belonging to the little finger, L its tendon. M N N the portion belonging to the middle finger, N N its tendon. O O P Q Q the portion belonging to the index, P its tendon; Q Q the two horns into which the tendon ſplits, inſerted into the bone of the ſecond phalanx of the index. In like manner are divided into horns and inſerted the tendons I. L. N.

R the tendon of the profundus belonging to the index.

S T. S T V W The long flexors of the thumbs. T V the tendon in the part V as if it were ſplit length-wiſe, and inſerted into the laſt bone of the thumb.

X X the tendons of the long ſupinators cut off.

Y The pronator quadratus.

Z b d. a b c d The long abductors of the thumbs. a the upper part. b the tendon of the upper part, a portion of which c, that it gives to the ſhort abductor of the thumb, is here cut off. d the tendon of the lower part.

e f. e

e f. e The leſs extenſors of the thumbs. f the tendon.

g. g The greater extenſor of the thumb.

h. h i The common tendons of the greater and leſs extenſors of the thumbs. i the inſertion of the common tendon into the laſt bone of the thumb.

In the right hand. k The end of the ſhort abductor of the thumb cut off.

l m n o p The ligament of the wriſt, which with the carpal ſinus forms a channel confining the tendons in their paſſage from the fore-arm to the fingers and thumb, viz. of the ſublimis, profundus, and long flexor of the thumb, m the origin of the ligament from the piſiform bone of the wriſt, the multangular bone n, and from the navicular bone o. p the canal thro' which paſſes the tendon of the internal radialis muſcle.

q r s t The oppoſing muſcle of the thumb. r its origin from the larger multangular bone, and ligament of the carpus s. t its end inſerted into the metacarpal bone of the thumb.

u v w Part of the ſhort flexor of the thumb, which may be reckoned a ſecond ſhort abductor of the thumb. v its origin from the ligament of the carpus. w its tendinous end inſerted into the firſt bone of the thumb.

x The poſterior tail of the ſhort flexor of the thumb.

y The abductor of the thumb.

z The outermoſt interoſſeous muſcle of the index.

α β The abductor of the index. β the tendinous end inſerted into the firſt bone of the index.

γ δ ε The firſt lumbricalis. δ its origin from the tendon of the profundus belonging to the index. ε the tendon that joins itſelf with the common tendon of the extenſors of the index, and then goes to the third bone of the index.

ζ. η. θ Lumbrical muſcles, ζ the ſecond, η the third, θ the fourth. They end in tendons like the firſt, which are not marked here on account of their minuteneſs. Theſe tendons join with the tendons of the outer interoſſei.

ι ι κ. ι ι κ. ι ι κ. ι ι κ The tendons of the profundus, ſlit in a manner lengthwiſe, and inſerted into the bones of the third order, κ κ κ κ.

λ The poſterior or inner interoſſeous muſcle of the index with its tendon.

μ The outer interoſſeous muſcle of the middle finger.

ν The common tendon of the ſecond lumbricalis and outer interoſſeous muſcle of the middle finger.

ξ The poſterior or inner interoſſeous muſcle of the middle finger with its tendon.

ο The outer interoſſeous muſcle of the ring finger.

π The common tendon of the third lumbrical and outer interoſſeous muſcle of the ring finger.

ϱ The tendon of the inner interoſſeous muſcle of the ring finger.

σ The tendon of the outer interoſſeous muſcle of the little finger.

ς The common tendon of the fourth lumbrical and outer interoſſeous muſcle of the little finger.

τ υ The ſmall flexor of the little finger. υ its origin from the ligament of the carpus.

φ The

φ The tendon common to the ſmall flexor and abductor of the little finger.
χ χ The abductor of the metacarpal bone of the little finger.
ψ ω The abductor of the little finger, ω its origin from the piſiform bone and ligament of the wriſt.
Γ the oppoſing muſcle of the thumb. In the left hand.
Δ The aponeuroſis encompaſſing the capſule of the joint of the thumb with its metacarpal bone, connected to the ſaid capſule and to the common tendon of the extenſor of the thumb.
Θ The inner tail of the ſhort flexor of the thumb.
Λ The aponeuroſis which the inner tail of the ſhort flexor of the thumb gives to the common tendon of the extenſor of the thumb.
Ξ Π The abductor of the thumb. Π the tendinous end inſerted into the firſt bone of the thumb.
Σ The abductor of the index.
Φ The outer interoſſeous muſcle of the index.
Ψ Ψ The tendon of the indicator.
Ω The head of the outer interoſſeous muſcle of the middle finger ariſing from the middle metacarpal bone.
1 The head of the inner interoſſeous muſcle of the middle finger ariſing from the metacarpal bone of the ring finger.
2 The head of the inner interoſſeus, from the metacarpal bone of the little finger.
3 The common tendon of the extenſors of the little finger cut off as it paſſes along the back of that finger.
4. 5 The tendons of the common extenſor of the fingers cut off. 4 that of the ring finger. 5 that of the middle finger, paſſing afterwards over the backs of thoſe fingers 6. 6. with the aponeuroſes they receive.
7 The tendon of the common extenſor of the fingers belonging to the index cut off.
8. 9 The common tendon of the indicator and common extenſor of the fingers belonging to the index. 9 its end inſerted into the ſecond bone of the index.
10 The aponeuroſis which ariſing partly from the firſt lumbrical, and in part from the abductor of the index, joins itſelf to the common tendon of the extenſor indicis.
11 The tendon of the firſt lumbrical muſcle.
12 The tendon of the firſt lumbrical muſcle, increaſed by a portion received from the tendon of the common extenſor of the index, and running to the third bone of the index.
13. The tendon of the inner interoſſeous muſcle of the index, which being enlarged by a portion received from the common tendon of the extenſor of the index, runs to the third bone of the index.
14. The common tendinous end inſerted into the third bone of the index. This is formed of the tendons 12 and 13 conjoined together.
15. The tendon common to the outer interoſſeous and ſecond lumbrical muſcle of the middle finger; which tendon being increaſed by a portion from

 the

the tendon of the common extenſor, runs to the third bone of the middle finger.

Upon the inner ſide of the fingers may be ſeen the tendons of the ſublimis and profundus.

THE

Third Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

HERE again, moſt of the parts in the preceding Table being removed, in this third Figure, we exhibit the next order of muſcles, together with ſome of the ligaments and parts of the Skeleton, which now appears more naked.

In this Figure are taken off, from the *head*; the temporal muſcle, the maſſeters, the corrugators of the eye-brows, the elevators of the upper eye-lids, the ligaments by which the junctures of the eye-lids, in the greater angles, are tied to the naſal proceſſes of the upper jaw-bones, the eye-lids themſelves, with the continuations of the orbicular muſcles which ſurround their margins, the naſals of the upper lips, the elevators of the corners of the mouth, the depreſſors of the lower lip. From the *neck*; the ſterno-cleino-maſtoidei, the elevators of the ſcapulæ, the coracohyoidei, the ſternohyoidei, the digaſtric of the lower jaw, the ſtylohyoideus. From the *trunk*; the ſubclavians, the anterior ſerrati, both upper and lower, the recti, pyramidales and internal oblique muſcles of the abdomen, the cremaſters and teſticles. From the *thighs*; the middle glutei, pectinei, long abductors, the recti,

recti, internal and external vaſti, with the crurei. From the *legs* and *feet*; the ligaments belonging to the knee-pan and ſhin-bones, the tendons of the ſeminervoſi, the proper extenſors of the great toes, the long extenſors of the toes, with the tendinous ends belonging to the firſt three of the ſmaller toes, the peronei tertii, the tendons of the plantares, the ſolei, the tendons of Achilles, the ſhort flexors of the toes, the outer tail of the ſhort flexor of the great toe, the capſule or ſheath confining the tendon of the long flexor of the great toe, near the firſt bone of the toe. From the *arms*; the ſupraſpinati, the bicipital flexors, with the long and ſhort extenſors of the cubit. From the *fore-arms* and *hands*; the ſublime flexors, the ulnares interni, ends of the long ſupinators, long abductors of the thumbs, and leſs extenſors of the thumbs. From the *right-hand*; the end of the ſhort abductor of the thumb, part of the ſhort flexor, which may be reckoned a ſecond abductor, the oppoſer of the thumb, the abductor of the index, the ſmall flexor and abductor of the little finger. Alſo from the cubit and *left-hand* are taken the tendon of the indicator, the greater extenſor of the thumb, the common tendon of the greater and leſs extenſor of the thumb, with its adjoining aponeuroſis that inveſts the capſule of the joint of the thumb with its metacarpal bone, the oppoſer of the thumb, the abductor of the index, with its aponeuroſis that joins to the common tendon of the extenſors of the index.

a a The balls of the eyes.

b The cartilage of the hole through which paſſes the tendon of the upper oblique muſcle of the eye; which cartilage ſupports and confines the ſaid tendon. In the head and neck.

c d The tendon of the ſuperior oblique muſcle of the eye, c part of it going to the notch or pully near the internal ſide of the orbit. d the part that runs back to the globe of the eye after paſſing the pully.

e e The ſtraight muſcles turning the eyes upward, and inſerted into their hard coats.

f The rectus that turns the eye to the noſe, fixed into the ſclerotica.

g The rectus that turns the eye from the noſe, fixed to the ſclerotica.

h h The recti depreſſing the eyes, fixed into the ſclerotica.

i. i k The lower oblique muſcles of the eyes. k their origin from the upper jaw, in the bottom of the orbit, near its edge, betwixt the future proper to the ſaid jaw, and the os unguis.

l. l m The depreſſors of the wing of the noſtrils. m the end inſerted round the root of the wing.

n o p p Part of the ſphincter of the mouth in the upper lip. o the part that is in the red margin of the lip. p p denote where the depreſſors of the corners of the mouth are cut off, from their inſertion into the ſaid ſphincter, where it ſurrounds the upper lip at the angles of the mouth.

q r s t t Part of the ſphincter of the mouth that is in the lower lip. q the part in the red margin of the lip. s here it paſſes under the faſciculus z, and is continued to the buccinator, and to part of the elevator of the corner of the mouth, and of the greater zygomatics joining it. t. t portions to the ſphincter of the mouth, which they join from the lower jaw: afterwards

terwards they pafs under portions of the buccinators z, and join themfelves to the faid buccinators.

u A finus or fpace betwixt the portion of the buccinator z, and the portion t, where the latter joins the fphincter of the mouth; in which fpace are fixed fome glandules.

v. v w x y z α The buccinators. w the part that goes into the fphincter of the mouth in the upper lip. x here part of it joins to the elevator of the corner of the mouth, and to part of the greater zygomatics. y the portion that goes into the fphincter of the mouth in the lower lip. z the portion that goes to the upper lip, and there joins the internal part of the fphincter of the mouth. α here it continues itfelf to the portion t, that joins the fphincter of the mouth.

β. β γ δ The elevators of the chin. γ the part in which they are joined together. δ the fibres they intermix with the fat of the chin.

ε ε The external pterygoideus, having a tendinous end.

ζ The internal pterygoideus.

η The mylohyoideus, inferted into the bafe of the hyoidal bone.

θ The Bafiogloffus arifing from the bafis and horn of the hyoidal bone.

ι Ceratogloffus arifing from the horn of the hyoidal bone.

κ λ λ The os hyoides. κ its bafe. λ λ its horns.

μ ν The larynx. μ the thyroide cartilage: betwixt χ ψ and ω is its upper procefs. ν the cricoide cartilage.

ξ The wind-pipe.

ο. ο The cricothyreoidei mufcles. ο the anterior part arifing from the cricoide cartilage: and a little below this part is its back part.

π π ϱ σ. π π ϱ σ ς The fternothyreoidei. ϱ a feparate portion that joins it; σ part of its extremity inferted into an eminence of the thyroide cartilage, which runs obliquely thro' its external fide: ς a part that joins itfelf to the pofterior edge of the hyothyroidei, and with that belongs to the horn of the hyoidal bone.

ς τ υ φ. ς τ υ φ The hyothyroidei. τ the origin from the horn and bafis of the hyoidal bone. υ φ the extremity inferted at the bottom of the margin of the thyroide cartilage υ, before the eminence which runs obliquely thro' the outfide of the faid cartilage. φ the eminencies themfelves.

χ The common extremity into which the ftylopharyngeus palatopharyngeus and falpingopharyngeus conjoin themfelves, the part produced from the ftylopharyngeus.

ψ The ligament which belongs to the end of the horn of the hyoidal bone, from the upper procefs of the thyroide cartilage.

ω The lower conftrictor of the pharynx.

Γ Γ The internal great recti mufcles of the head.

Δ Θ The longus colli. Θ the end coming from the back to the tranfverfe procefs of the fecond vertebra of the neck; the tendinous part of which end fee in the table following.

Λ Λ The firft anterior intertranfverfales of the neck.

Ξ Ξ The elevators of the firft ribs.

Π Σ Φ Ψ Ω. Π Σ Φ Ψ Ω The firſt or anterior ſcaleni. Σ the origin from the firſt rib. Φ Ψ Ω its three extremities, of which Φ belongs to the tranſverſe proceſs of the ſecond vertebra of the neck, reckoning from the back; Ψ to the third, and Ω to the fourth vertebra.

A B C D E. A C D E The middle ſcaleni. B the origin from the firſt rib. C D E the extremities of which C belongs to the tranſverſe proceſs of the firſt vertebra of the neck from the back, D to the fifth, and E to the ſixth and ſeventh.

E The trachelomaſtoideus muſcle.

E The complexus muſcle.

Æ The upper oblique muſcle of the head.

F F. F F Betwixt π and ρ appears the pleura.

G H I K K. L. M. N. O. P. Q. R. S: G H I K K. L. M. N. O. P. Q. R. S The external intercoſtals. G H I K K the firſt, L the ſecond, M the third, N the fourth, O the fifth, P the ſixth, Q the ſeventh, R the eighth, S the ninth. The firſt ariſes from the cartilaginous end of the firſt rib, H from the bony part of the rib, is inſerted into the bony part of the ſecond rib K K; in the ſame manner the following muſcles ariſe from the bony part of the upper rib, and are inſerted into the bone of the lower rib. In the trunk and thighs.

T U V W X. Y. Z. a. b. c. d. e. f: T U V W X. Y. Z. a. b. c. d. e. f The internal intercoſtals. T U V W X the firſt, Y the ſecond, Z the third, a the fourth, b the fifth, c the ſixth, d the ſeventh, e the eighth, f the ninth. The firſt ariſes from the cartilaginous end of the firſt rib U, and from the ſternum V; it is inſerted into the bony part of the ſecond rib W, and its cartilaginous end X. In the ſame manner appears in the following muſcles how they ariſe from the cartilaginous end and bony part of the upper rib, and are inſerted into the cartilaginous and bony part of the lower rib. g. h. i. k: h denote parts of thoſe intercoſtals which are inſerted betwixt the cartilages of thoſe ribs, after the meeting or conjunction of their cartilages.

l m n o p p q q r. l m n o p p q q r The tranſverſe muſcles of the abdomen; l the fleſhy part, m the aponeuroſis, n the origin from the cartilaginous end of the eleventh rib, o the origin from the ſpine of the ilium, p p the margin that comes from the tendinous edge of the external obliquus of the abdomen; q q here is cut off a part of the aponeuroſis, which paſſes before the rectus and pyramidalis muſcle. r the bottom margin of the upper part of the aponeuroſis, which paſſes behind the rectus, and immediately adheres to the peritonæum.

s t t t. s t t t The poſterior lamellæ of the aponeuroſes of the internal oblique muſcles ſpread over the aponeuroſes of the tranſverſe muſcles. t t t here it is cut off in the part where it firſt joins with the aponeuroſes of the tranſverſe muſcles.

u v w. v w Here the aponeuroſes of the tranſverſe, with the poſterior covering lamellæ of the aponeuroſes belonging to the internal oblique muſcles, inſert themſelves into the fore-part of the enſiform cartilage, not far from its tip u, into the edges of the ſaid cartilage v v, and into its bony part w w.

x The

x The triangular muſcle of the ſternum conjoined with the tranſverſalis of the abdomen, and inſerted with it. The ſame alſo holds on the other ſide.

y y The linea alba. z the opening in it, thro' which, in the embryo, paſs out the umbilical arteries, with the umbilical vein and urachus.

α α. α α From hence are cut off the aponeuroſes of the external oblique muſcles of the abdomen, with the anterior lamellæ of the aponeuroſes belonging to the internal oblique muſcles.

β β β β β β γ δ δ The peritonæum. γ δ δ the footſteps of the ligament γ, which was formerly the urachus, and of the ligaments δ δ which were formerly the umbilical arteries.

ε ζ η θ. ε ζ η θ The chords of the ſpermatic veſſels. ε ζ the two veins. η the artery, the veins, together with the artery, paſs along beneath the tranſverſe muſcle, thro' the peritonæum to the upper part of the os pubis; to theſe veſſels the vas deferens θ joins itſelf coming out of the pelvis, and then paſſes down together with them, thro' the groin to the ſcrotum.

ι The ſynchondroſis, or conjunction of the oſſa pubis, tied together by their ligaments.

κ The penis cut off. See Table IV. following.

λ The external ſphincter of the anus.

μ The accelerator urinæ; and the ſame is in the other ſide.

ν The erector penis, which is alſo in the other ſide.

ξ ο π ϱ σ. ξ ο π σ The leſs glutei. ο the origin from the os ilium. π the tendon which is inſerted into the root of the great trochanter ϱ. π the forepart of the muſcle.

ς ς. ς ς The internal iliacs. ς the origin from the ſpine of the ilium.

τ υ. τ υ The great pſoæ, or lumbal muſcles. υ the tendon to which joins the fleſh of the iliacs internus.

φ χ. φ χ The external obturators. χ the origin from the os pubis.

ψ ω Γ. ψ ω Γ The ſhort adductors of the thighs, in which are impreſſed the footſteps of the long adductors and pectinei: ſee Tab. II. ω the head, which is outwardly tendinous, ariſing from the os pubis near its juncture. Γ Its tendinous end from the ſame part.

Δ Δ Θ Λ Ξ. Δ Δ Θ Λ Ξ The large adductors of the thighs. Δ Δ the part which is inſerted into the ridge or ſpine of the thigh bone. Θ Λ Ξ the other part belonging to the condyle of the thigh bone; Λ its tendinous ſurface, paſſing into the tendon Ξ.

Π Σ Φ. Π Σ Φ The ſemimembranoſi. Σ the tendinous ſurface paſſing into a tendon. Φ the thinner portion which ſends out the tendon belonging to the internal margin of the tibia, or ſhin bone.

Ψ Ω A B. Ψ Ω A B The graciles, in which are impreſſed the footſteps of the long adductors of the thighs; ſee Tab. II. Ω the origin from the ligament, tying together the oſſa pubis at their juncture. A the tendon, inſerted into the tibia B.

C D E F. C D E F The ſhorter heads of the bicipital muſcles of the legs. D E F The tendinous end, of which the principal part E, is inſerted into the head of the fibula; F the part belonging to the tibia.

GHIKKL.

In the legs and feet.

G H I K K L. G H I K K L The long peronei, in which are impreſſed the marks of the long extenſors of the toes (ſee Tab. II.) H the beginning of its upper origin from the head of the fibula, and from the tibia I. K K the beginning of its lower part ariſing from the ſpine of the fibula. L the tendon ariſing from the outer part of its fleſh.

M N N. M N N O The ſhort peronei, in which are impreſſed the marks of the long extenſors of the toes; ſee Tab. II. N N the origin from the fibula. O the tendon.

P Q Q R R S S T U. P Q Q R R S S T U The tibiales poſtici. Q Q the origin from the tibia, and from the ſpine of the fibula. R R S S T U the tendon, which being partly inſerted into the navicular bone T, the portion U runs to the greater cuneiform bone.

V W. W W The long flexors of the great toes. W the tendon.

X Y Y Z a. X Y Y Z a The long flexors of the toes. Y Y the origin from the tibia. Z the beginning of the tendon, a the tendon itſelf.

b c. b c The portions which join the long flexors of the toes in the ſoles of the feet. c the origin from the calcaneum.

d The inner tail of the ſhort flexor of the great toe, that is next the ſmall toes.

e f g h i k l. e f g h i k l The ſhort extenſors of the toes, which divide into five portions. f the tendon of the portion belonging to the great toe, inſerted into the firſt bone at g. h the tendon of a portion ſometimes found running to the ſide of the firſt toe that is next to the great toe. i the tendon of the portion belonging to the firſt of the ſmall toes, k that to the ſecond, and l to the third.

m m. m The firſt interoſſeus muſcles of the firſt ſmall toes. Betwixt i and k in the left foot is the ſecond interoſſeus of the firſt ſmall toe, betwixt k and l, left, is the ſecond interoſſeus of the ſecond ſmall toe.

n. o. p left. The tendons of the long extenſors of the toes cut off. n that which belongs to the firſt of the ſmall toes, o that of the ſecond, p that to the third, and ſo likewiſe in the right foot.

q The common tendon of the long and ſhort extenſors of the toes inſerted into the bone of the ſecond phalanx. r part of the ſame, running to the third bone. s the tendon to the third bone from the tendon of the ſhort extenſor of the toes. t the common end of the two portions to the third bone, wherein it is inſerted. u an aponeuroſis joining to the tendon q, and going partly to the capſule of the joint of this toe, with its metatarſal bone, coming partly from the interoſſeus of that ſide, in part from the lumbrical muſcle, and partly from the ſide of the bone of the firſt phalanx. The ſame holds in the ſecond and third of the ſmall toes of this foot, and in the three firſt of the left foot.

In the ſhoulders, arms, and hands.

v v w x y. v x The ſubſcapulares. w x the tendinous part of its extremity, inſerted into the leſs unequal protuberance of the upper head of the humerus, at x. y the fleſhy part of its end inſerted into the humerus below its head.

z α. z The teres major. α its tendinous end inſerted into the humerus.

β γ δ ε ζ.

β γ δ ε ε. β γ δ ε ε Part of the ſhorter heads of the bicipital muſcles of the arms, outwardly tendinous, and cut off at γ. γ; having a common origin with the coracobrachiales at δ. δ, from the coracoide proceſſes of the ſcapulæ; at ε ε. ε ε they are conjoined with the coracobrachiales.

ζ η. ζ η The coracobrachiales, divided by a nerve that paſſes thro' in the part η.

θ ι. θ ι The external brachiales. ι the tendon, which ariſing from its ſurface, ends in the poſterior condyle of the humerus.

κ λ μ ν ξ ο. κ λ μ ν ξ ο The brachiales interni. λ. μ the forked beginning by which it ariſes from the humerus. ν its origin from the edge of the humerus. ξ the lower part upon which lies the long ſupinator. ο the tendinous ſurface.

π ρ The longer external radialis muſcle of the right hand. ρ the tendon.

σ ς ς τ υ The longer external radialis muſcle of the left hand, which here divides itſelf into two. ς the tendon of the principal part, which is alſo itſelf the moſt conſiderable. ς the tendon of the leſs portion which joins itſelf with the other, and together forms the common tendon. τ inſerted into the metacarpal bone of the index υ.

Φ χ. Φ Φ χ χ ψ The ſhorter external radial muſcles. χ χ the tendon inſerted into the two metacarpal bones ψ of the index and middle finger.

ω Γ Δ Θ. ω Θ The ſhort ſupinators. Γ Δ the end which is inſerted at the root of the tubercle of the radius, and into the radius itſelf, below the the ſaid tubercle Δ. Θ the back part.

Λ The extremity of the round pronator which is here cut off.

Ξ Ξ The pronator quadratus, or ſquare pronator of the radius.

Π Π Σ Σ Φ Ψ Ω A B. Π Φ Ψ Ω The long flexors of the thumbs. Σ Σ its origin from the radius, Φ Ψ the portion which joins it ariſing from the greater condyle of the humerus, but ſeldom found; and which forms a tendon Ψ, that joins itſelf to the fleſhy part of the flexor, and makes up the firſt riſe of its tendon Ω A B, of which the part Ω adheres to the fleſhy portion of the flexor, the part A going along by the metacarpal bone of the thumb, is there in a manner ſplit longitudinally, and at length inſerted into the extremity of the laſt bone of the thumb B.

C C D E F G H H I I K K L M M M M. C C D E F I K L The profound flexors. D its origin from the ulna, E F G three tendons ariſing from its fleſhy belly, and betwixt which are fleſhy fibres. The firſt of theſe, E, goes into the tendon of the index H H; the ſecond, F, into the middle tendon I I; and the third, G, into the two K L, of which one K K belongs to the ring finger, and the other to the little finger L L. Where theſe tendons run along the fingers and palm, they are in a manner ſlit longitudinally, up to their extremities M M M M, which are inſerted backwards into the bones of the third or laſt phalanx.

In the right hand

N O P Q R The ligament of the wriſt, which, together with the carpal ſinus, forms a canal that confines or retains the tendons coming from the fore arm to the fingers and thumb, namely, of the ſublimis, profundus, and long flexor of the thumb. O its origin from the navicular bone of the wriſt, and from the internal protuberance of the larger multangular bone

bone P, from the piſiform bone Q, and from the crooked proceſs of the cuneiform bone R, S the canal thro' which paſſes the tendon of the internal radialis.

T The ligament from the piſiform bone belonging to the fourth metacarpal bone.

U V W X Y The adductor of the metacarpal bone of the little finger. V its origin from the crooked proceſs of the cuneiform bone, and from the ligament of the wriſt W. It is inſerted into the metacarpal bone of the little finger at X Y.

Z Z a The ſhort flexor of the thumb, a its tendinous end inſerted into the ſeſamoide bone of the thumb which is fartheſt from the index.

b b The adductor of the thumb. c d d e f the firſt lumbrical. d d its origin from the tendon of the profundus belonging to the index; and from the thicker part of thoſe two tendons, in which the profundus is in a manner divided longitudinally. e the aponeuroſis which joins it with the aponeuroſis of the abductor indicis, and with that communicates with the common tendon of the extenſor indicis. f the tendon which joins itſelf with the common extenſor of the index, and then goes to the third bone of the index.

g h i The ſecond lumbrical muſcle. h i its origin, from the tendon of the profundus of the middle finger h, and from the thicker part of thoſe into which that tendon is in a manner ſplit longitudinally: but the thinner part of it ariſes from the tendon of the profundus i, belonging to the index. Its tendon joins that of the former interoſſeus of the middle finger.

k l m The third lumbrical muſcle. l m its origin from the tendon of the profundus belonging to the middle finger l, and from the thinner portion of thoſe into which it is ſplit in a manner longitudinally: alſo from the tendon of the profundus the thicker part of it belonging to the ring finger m. Its tendon joins the tendon of the outer interoſſeus of the ring finger.

n o The fourth lumbrical muſcle. o its origin from the tendon of the profundus belonging to the little finger; and from the thicker of thoſe portions into which the tendon is in a manner ſplit longitudinally. Its tendon joins that of the outer interoſſeus of the little finger.

p The tendon common to the fourth lumbrical muſcle with the outer interoſſeus of the little finger; which tendon joins itſelf with that of the common extenſor and goes to the third bone of the little finger.

q The tendon of the poſterior or inner interoſſeus muſcle of the ring-finger where it joins with the tendon of the common extenſor, running afterwards to the third bone of the ring finger.

r The outer interoſſeus of the ring finger.

s The tendon common to the third lumbrical muſcle, with the outer interoſſeus of the ring finger, which tendon joins itſelf with that of the common extenſor, and goes to the third bone of the ring finger.

t u The inner interoſſeus of the middle finger. u the tendon by which it joins the tendon of the common extenſor, and goes to the third bone of this finger.

v The outer interoſſeus of the middle finger.

w The tendon common to the ſecond lumbricalis and outer interoſſeus of the middle finger, which joining the tendon of the common extenſor, goes to the third bone of the middle finger.

x y The inner interoſſeus of the index. y the tendon by which it joins the tendon of the common extenſor of the index, and then goes to the third bone of the index.

z The outer interoſſeus of the index, its tendinous end being inſerted into the firſt bone of the index.

In the left hand. a b The ſhort flexor of the thumb. b the tendinous expanſion, by which it joins the aponeuroſis that inveſts the capſule of the joint of the thumb with its metacarpal bone, and therewith joins to the tendon of the common extenſor of the thumb.

c d The adductor of the thumb. d the tendinous end inſerted into the firſt bone of the thumb.

e f The outer interoſſeus of the index, ariſing from the metacarpal bone of that finger, and inſerted with its tendinous end f, into the firſt bone of the index.

g The head of the outer interoſſeus of the middle finger, ariſing from the metacarpal bone of that finger.

h The head of the inner interoſſeus of the middle finger, ariſing from the metacarpal bone of the ring finger.

i The head of the inner interoſſeus of the ring finger, ariſing from the metacarpal bone of that finger.

k The tendon of the indicator muſcle cut off.

l The tendon of the common extenſor to the index cut off.

m The tendon common to the indicator, and common extenſor belonging to the index; n its extremity inſerted into the third bone of the index.

o p q The firſt lumbrical muſcle. p the tendon, q the aponeuroſis which joins it with the aponeuroſis of the abductor indicis, and with that adheres to the tendon of the common extenſors of the index. r the tendon of this muſcle conjoined with the tendon of the common extenſors of the index, and being increaſed by a portion received from thence it runs down s, to the third bone of the index.

t The tendon of the inner interoſſeus of the index, which being increaſed by a portion received from the tendon of the extenſors common to the index, runs to the third bone of the index.

u The tendinous end common to the tendons s and t joined together in one, and inſerted into the third bone of the index.

v w The tendons of the common extenſors cut off, belonging to the middle finger v, and to the ring finger w; after which they run down the backs of the fingers with the aponeuroſes which they receive.

x The tendon of the common extenſors, to the little finger cut off, deſcending along the back of that finger.

y The tendon common to the outer interoſſeus of the middle finger, and ſecond lumbrical muſcle; which tendon having received a portion from the common extenſor, that ſupplies the middle finger, is thereby enlarged,

and

and joins itſelf with the tendon z of the inner interoſſeus of the ſame finger; it is alſo increaſed by a portion which it receives from the tendon of the common extenſor belonging to the middle finger; and the common tendinous end, ariſing from this conjunction, then ends in the third bone of this finger.

THE

Fourth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN this Figure which repreſents the fourth order of the muſcles, we have not only removed moſt of the outer parts of the Figure laſt preceding, but we have alſo taken away every thing from the bony cavities of the eyes, except the muſcles; from the neck we have removed the whole pharynx and gula, together with the larynx and windpipe; from the opened thorax all the parts that are above the diaphragm, the heart, lungs, pericardium, and two pleuræ: alſo the whole peritonæum, with the abdominal viſcera which it contains, and whatever elſe lies near the loins on this ſide, except the muſcles.

Here, from the third table, are taken off from the *head* balls of the eyes, with the extremities of the muſcles inſerted into them, the cartilage of the

 notch

notch or pulley thro' which the tendon of the obliquus ſuperior paſſes to the eye, the depreſſors of the ſides of the noſe, the ſphincter of the mouth, the buccinators, the elevators of the chin, the external pterygoidei. From the *neck*, the mylohyoidei, the baſiogloſſus, the ceratogloſſus, hyoidal bone, larynx, windpipe, cricothyreoidei. ſternothyreoidei, hyothyreoidei, the common extremity in which the ſtylopharyngeus, palatopharyngeus, and ſalpingopharyngeus join together, and the part produced from the ſtylopharyngeus; the ligament that goes from the upper proceſs of the thyroide cartilage, to the end of the horn of the os hyoides, the lower conſtrictor of the pharynx, the larger internal ſtraight muſcles of the head, the firſt or anterior ſcaleni, the trachelomaſtoideus, complexus, and two pleuræ. From the *trunk* are taken the left external intercoſtals, the anterior extremities of the fourth, fifth, ſixth, ſeventh, eighth, ninth, and tenth ribs, together with the lower part of the breaſt-bone, and the intermediate intercoſtal muſcles; the tranſverſe muſcles of the abdomen, with the poſterior plates of the aponeuroſes, belonging to the internal obliqui of the abdomen, the triangulares ſterni, the linea alba, chords of the ſpermatic veſſels, and peritonæum. From the *pelvis* are taken the leſs glutei. From the *thighs* the ſhort abductors, the ſemimembranoſi graciles and bicipital muſcles of the legs. From the *legs* and *feet* are taken the long peronei, the long flexors of the great toes, the long flexors of the ſmall toes, the muſcular portions which join the long flexors of the toes in the ſoles of the feet, the ſhort extenſors of the toes, the tendons of the long extenſors of the toes, together with the other tendons and aponeuroſes ſtretched over the backs of the toes: alſo from the left foot is taken the inner tail of the ſhort flexor of the great toe. From the ſhoulder blades are taken the teretes majores. From the arms the corachobrachiales, together with the ſhorter heads of the bicipital muſcles of the arms, and the brachiales external and internal. From the *fore-arms* and *hands* are taken the longer and ſhorter external radiales, the long flexors of the thumbs, and the profundi: from the right cubit the cut extremity of the pronator teres. Alſo from the right hand is taken the internal ligament of the wriſt, the ligament from the piſiform to the fourth metacarpal bone, the adductor of the metacarpal bone of the little finger, and the lumbricales. From the left hand are taken all the muſcles, tendons, and aponeuroſes, except the adductor and ſhort flexor of the thumb.

In the head, neck, and trunk.

a b b. b b The elevators of the upper eye-lids. b b the extremity cut off.

c d The upper obliquus of the eye. c its origin from the internal ſide of the margin of the optical hole. d the end cut off, where it enters the pulley.

e f. f The ſtraight elevators of the eyes. e the origin, partly from the upper ſide of the margin of the optical hole, and in part betwixt the ſaid hole, and what follows below it. f the extremity cut off.

g h The ſtraight adductor of the eye. g its origin from the edge of the optical hole towards the noſe. h its extremity cut off.

i l. k l The ſtrait abductors of the eyes. i the origin from the lower part of the margin of the hole that lies below the optical foramen; it beginning where

where the round hole is near the ſlit into which it opens. l the extremity cut off.

l m. n The ſtrait depreſſors of the eyes. m the origin from the lower part of the bony portion, which divides the optical hole, and from thence downward.

o p q. o q The lower oblique muſcles of the eyes cut off where they inſert themſelves into their globes. p the origin from the edge of the bony orbit. q the inner part.

r the internal pterygoideus.

s The upper oblique muſcle of the head.

t u v w x y z α. t u w x y z α The long muſcles of the neck. t u v w x the principal part which belongs to the bodies of the vertebræ, a part of which, marked u, is tendinous. v w x the heads from a tendinous origin, ariſing from the tranſverſe proceſſes of the vertebræ of the neck: v that from the fourth, w from the third, x from the ſecond. y z α the part which belongs to the tranſverſe proceſſes, the tail of which z α belongs to the tranſverſe proceſs of the ſecond vertebra of the neck, being tendinous in the part α.

β γ δ ε ζ η θ ι κ λ μ ν. β δ ε ζ η θ ι κ λ The middle ſcaleni. γ the origin from the firſt rib. δ ε the tail belonging to the tranſverſe proceſs of the ſecond vertebra of the neck, ε the tendinous end. ζ η the tail to the ſecond, η the tendinous end. θ ι the tail to the third, ι the tendinous end. κ λ the tail to the fourth, λ the tendinous end. μ the tail to the fifth. ν the part which divides into the two laſt tails.

ξ. ο. π. ρ: π. ρ The intertranſverſales on the foreſide of the neck. ξ the fourth, ο the third, π the ſecond, ρ the firſt.

σ. σ The elevators of the firſt ribs inſerted into thoſe ribs.

ς ς. ς ς τ τ. υ. φ. χ. ψ. ω. A The external intercoſtals. ς ς the firſt, &c. the left are here taken away.

B. C C. D. E. F. G. H. I. K. L L: B. C C C. D. L L L The internal intercoſtals. B B the firſt, &c. L L. L L L the eleventh.

M M N N N O O P P Q Q R R S T U U V W X Y Z Γ Δ Θ Λ Ξ Π Π Σ Σ Σ Φ Ψ Ω a b c c d e f g h i i k k k k l l l l m m n n o o The diaphragm. M M N N O O P P Q Q R R S T U U V W X Y Z Γ Δ Θ Λ Ξ Π Π Σ Σ Σ Φ Ψ Ω a b c c that part which lies next the abdomen. d e f g h i i k k k k l l l l m m n n o o the part which lies next the thorax. M N O P. M N O P the firſt heads; M M the tendinous expanſions which ariſe from the ligaments, which run on the ſurfaces of the bodies of the vertebræ of the loins and join to thoſe heads outwardly; at N N below they ariſe with a thick tendon O, from the lower part of the body of the third vertebra of the loins: P P the fleſhy portions in which thoſe tendons terminate. Q Q The ſecond heads. R R the third heads. S S the fourth head of the left ſide. T a beginning which I have ſometimes found ariſing from the ſurface of the quadratus of the loins. U U the firſt fleſhy parts of the diaphragm formed by the conjunction of it's heads. V a portion of the left firſt head going to the firſt fleſhy portion of the right ſide, and afterwards running thro' the right margin of the hole through which

which the gula paſſes out. W part of the firſt right head which going behind the portion V croſſes the ſame and goes beyond it in the firſt left fleſhy part. X the hole thro' which the gula paſſes out. Y Z Γ Δ the left part of the middle tendon of which the part Y ariſes from the firſt fleſhy portion, and goes into the ſecond fleſhy portion of the left ſide Z; Γ a part climbing over the former and croſſing the ſame. Δ climbs over the next part, Γ croſſes it and goes into the ſecond fleſhy portion of the left ſide in the lower part. Θ the ſecond left fleſhy portion; Λ Ξ its extremity inſerted into the twelfth rib as well the bony part Λ, as the cartilaginous Ξ: Π Π the margin of it cut off where it was continued to the tranſverſalis of the abdomen betwixt the two laſt ribs. Σ Σ Σ Φ the ſecond right fleſhy portion, here Φ firſt climbing over and croſſing ſoon afterwards becomes tendinous. Ψ Ω a portion ſometimes found in one and ſometimes in both ſides forming the lower margin of the diaphragm in this part; and which in this body (but variouſly in others) ariſes from the tranſverſe proceſs of the fourth vertebra of the loins, and alſo from that of the fifth, firſt of all tendinous Ψ; (but differently in different ſubjects) and then the fleſhy portion Ω joins itſelf to the ſecond fleſhy part Σ, uniting with it behind a, and is inſerted into the cartilage of the twelfth rib b. c c the margin cut off which was continued to the tranſverſalis of the abdomen betwixt the two laſt ribs. d the middle tendon in which the tendinous fibres croſs each other. e f the fleſhy parts right and left. g the extremity of the middle fleſhy part that belongs to the enſiform cartilage from whence it is cut off at h. i i the extremities which unite to the peritonæum. k k k k the extremities cut off from the inner ſide of the ſeventh rib. l l l l thoſe from the eighth rib. m m thoſe from the ninth. n n thoſe from the tenth. o o thoſe inſerted into the eleventh rib.

In the trunk, and lower extremities.

p q q. p q q The ſquare muſcles of the loins. q q the origin from the ſpine of the os ilium beginning outwardly tendinous.

r s The ſmall pſoas. s the tendon. The left is not exhibited.

t u v w x. t u v w x The great pſoæ or lumbal muſcles. u the third head and its origin from the lower part of the body of the fourth vertebra of the loins, and from the ligament interpoſed betwixt that and the body of the third vertebra. v the fourth head, and its origin from the lower part of the body of the third vertebra of the loins and the ligament betwixt that and the ſecond. w the fifth head and its origin from the lower part of the body of the ſecond vertebra of the loins and the ligament betwixt that and the body of the firſt. x the tendon which joins to the fleſhy part of the iliacus internus.

y z z z. y z z z The internal iliacs. z z z the origin from the edge of the os ilium.

α β. α β The external obturators. β the origin from the os pubis.

γ δ δ ε The penis cut off. δ δ the larger cavernous bodies. ε the leſs cavernous body with the urethra.

ζ ζ the erectors of the penis.

η η The accelerators.

θ The external ſphincter of the anus.

ι ι The

ι ι The tranſverſe muſcles of the perinæum.

κ λ μ ν ξ ο. κ λ μ ν ξ ο The large adductors of the thighs. κ the origin from the os pubis. λ μ ν the portions which are in ſome meaſure diſtinguiſhed from each other chiefly by the courſe of their fibres, which all together make the upper part of this muſcle inſerted along the poſterior rough line of the thigh bone. ξ ο the part which is more diſtinct going from thence to the lower extremity belonging to the inner condyle : ο the tendon ariſing from the fleſhy part.

π ρ σ σ τ υ υ φ φ χ ψ. π ρ σ σ τ υ υ φ φ χ ψ The tibiales poſtici. ρ the beginning that ariſes from the tibia. σ σ the origin from the tibia. τ the beginning of its origin from the fibula. υ υ the origin itſelf from the fibula. φ φ χ ψ the tendon inſerted into the navicular bone χ, and running along in a more ſlender portion to the great cuneiform bone ψ.

ω Γ Γ Δ. ω Γ Γ The ſhort peronei. Γ Γ the origin from the fibula. Δ the tendon.

Θ Θ The firſt interoſſei of the ſecond toes ariſing from the metatarſal bones of thoſe toes.

Λ Λ The heads of the ſecond interoſſei of the ſecond toes which ariſe from the metatarſal bones of the third toes.

Ξ Ξ The heads of the ſecond interoſſei of the third toes ariſing from the metatarſal bones of the fourth toes.

Π Π The heads of the ſecond interoſſei of the fourth toes which ariſe from the metatarſal bones of the fifth.

Σ The adductor of the great toe.

Φ Ψ Ω a. Φ Ψ Ω a The ſubſcapulares. Ψ the tendinous ends inſerted into the leſs unequal protuberance of the upper head of the humerus Ω a: the fleſhy part inſerted into the humerus below the ſaid tubercle. In the ſhoulders, arms, and hands.

b c d d e e f. b c e f The ſhort ſupinators. c the tendon by which it begins. d d its inſertion round the tubercle of the radius and into the radius itſelf below the ſaid tubercle e e. The poſterior part f appears betwixt the ulna and radius.

g. g h i k k The ſquare pronators. h the tendinous ſurface. i the origin from the ulna. k k the inſertion into the radius.

l m n o p q. l r The ſhort flexors of the thumbs. m the origin from the leſs multangular bone, from the unciform bone n, and from the cuneiform bone o. p the other tail inſerted by a tendinous end into the ſeſamoide bone that is fartheſt from the index. q the other inſerted alſo by a tendinous end into the ſeſamoide bone that is neareſt the index, and into the next part of the firſt bone of the thumb. r the aponeuroſis which the ſhort flexor ſends out, and which joins with the aponeuroſis inveſting the capſule that joins the thumb with its metacarpal bone, and together therewith adheres to the common tendinous extremity of the extenſors of the thumb, the extremity of which is here cut off.

s t u. s u The adductors of the thumbs. t the origin from the metacarpal bone of the middle finger. u the tendinous end inſerted into the firſt bone of the thumb.

v w The outer interoſſeus muſcle of the index which is inſerted by a tendinous end w, into the firſt bone of the ſaid index.

x The poſterior or inner interoſſeus of the index. y its tendon, which being increaſed by a portion received from the tendon of the extenſors of the index, runs to the third bone of the ſaid index.

z The outer interoſſeus muſcle of the middle finger.

α The tendon of the ſecond lumbrical muſcle cut off.

β The tendon common to the ſecond lumbrical and outer interoſſeus muſcles of the middle finger, which tendon being increaſed by a portion received from the tendon of the common extenſor belonging to the middle finger runs at laſt to the third bone of the ſaid middle finger.

γ The inner interoſſeus muſcle of the middle finger. δ its tendon, which being increaſed by a portion received from the tendon of the common extenſor belonging to the middle finger runs at laſt to the third bone of the ſaid middle finger.

ε ζ The outer interoſſeus muſcle of the ring finger. ζ its origin from the metacarpal bone of that finger.

η The tendon of the third lumbrical muſcle cut off.

θ The tendon common to the third lumbrical and outer interoſſeus muſcle of the ring finger, which tendon being increaſed by a portion received from the tendon of the common extenſor belonging to the ring finger, runs to the third bone of the ſaid ring finger.

ε κ The inner interoſſeus muſcle of the ring finger. κ its origin from the metacarpal bone of that finger. λ its tendon, which being increaſed by a portion received from the tendon of the common extenſor belonging to the ring finger runs to the third bone of that finger.

μ ν The interoſſeus muſcle of the little finger. ν its origin from the metacarpal bone of that finger.

ξ The tendon of the fourth lumbrical muſcle cut off.

ο The tendon common to the fourth lumbrical and interoſſeus muſcle of the little finger, which tendon being increaſed by a portion received from the tendon of the extenſors of the little finger, then runs to the third bone of the ſaid finger.

We conclude this table, and the eighth, by exhibiting in the back ground the figure of a female Rhinoceros that was ſhewed to us in the beginning of the year 1742, being two years and a half old, as the keepers reported. We thought the rarity of the beaſt would render theſe figures of it more agreeable than any other ornament, reſulting from mere fancy. The figures are juſt, and of a magnitude proportionable to the human figure contained in thoſe two tables.

THE

THE

Fifth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

THE Figure of this Table is the back part of that contained in the firſt muſcular Table; and it repreſents the whole ſyſtem of the outer muſcles together, after the common integuments and tendinous coverings are removed: it alſo repreſents many of the ligaments belonging to the muſcles, with the ears, part of the ſcrotum, and naked parts of the Skeleton.

In the head, neck, back, and thighs.

a b c. a b c d d. e The epicranius or occipito-frontal muſcles. a b the Occipitalis. a its tendinous beginning. b its fleſhy part. c d d the tendinous expanſion betwixt the occipitalis and frontalis. d d ſhews the temporal muſcle through the ſaid expanſion protuberant, e the membranous part by which the occipitales and their aponeuroſes are joined together, ariſing above the origin of the cucullares from the occipital bone.

f g The elevator of the outer ear. f its tendinous beginning which goes off from the epicranius. g the fleſhy part.

h The frontal muſcle.

i The orbicular muſcle of the eye-lids.

k The anterior muſcle of the outer ear.

l The leſs muſcle of the helix.

m. n o The three muſcles drawing back the outer ear.

p q The maſſeter. p the back part of its inward portion, which is not covered by the outer portion. q the outward portion.

r The greater zygomatic muſcle.

ſ The internal pterygoide muſcle.

s The mylohyoideus muſcle.

t The latiſſimus colli or broadeſt muſcle of the neck.

u w x The ſternomaſtoideus with the cleidomaſtoideus conjoined together into one. w the tendinous end inſerted into the occipital bone at x.

y y The biventral muſcle of the neck inſerted into the occipital bone.

z z The ſplenii muſcles of the head.

A The elevator muſcle of the ſcapula or ſhoulder-blade.

B C D E F G H H. B C D E F G H H The cucullares. B the fleſhy part. C D E F The tendinous beginning. C the part ariſing from the occipital bone and adhering outwardly with its fellow muſcle along the tract D E F, which ariſes internally from all the ſpines of the back, the two lowermoſt of the neck, aad the cervicle ligament. E the tendinous expanſion of its beginning which is broader towards the bottom of the neck and upper part of the back. F another part of the ſame in the lower angle. G the end of the tendinous part which is inſerted into the ſpine of the ſcapula not far from its baſis. H H the tendinous part of the extremity inſerted into the ſpine of the ſcapula and its upper proceſs.

I K. I K The infraſpinatus on each ſide. K its origin from the baſis of the ſcapula.

L L The larger rhomboidal muſcles inſerted into the baſis of each ſcapula.

M M The ſacrolumbales muſcles.

N N The leſs teretes.

O O The larger teretes.

P Q R R S T V. P Q R R S T V The latiſſimi dorſi or broadeſt muſcles of the back. P the fleſhy part. Q the broad tendon by which it ariſes. R R its origin from the ſpines of the vertebræ of the loins and os ſacrum. S its origin from the oblique proceſſes that are at the ſides of the opening of the os ſacrum. T its adheſion with the gluteus magnus. V its origin from the ſpine of the ilium.

W X. W X The fleſhy parts of the external oblique muſcles of the abdomen, X X their inſertions into the ſpines of the oſſa ilia.

Y Z. Y Z α The middle glutei. Z the origin from the os ilium. α the tendon.

β β The extenſors of the tendinous coverings of the thighs.

γ δ δ. γ δ δ The largeſt glutei. δ δ in this part it ariſes from the ſpine of the ilium and os ſacrum and coheres with the latiſſimus dorſi.

ε The elevator of the anus. A ſmall part of the right elevator may be alſo ſeen on the right ſide.

Betwixt ζ and η is the tranſverſe muſcle of the perinæum.

η The external ſphincter of the anus.

θ θ The large adductors of the thighs.

ι κ. ι κ The graciles. κ the tendon.

λ λ The ſartorii, or Taylor's muſcles.

μ μ The internal vaſti muſcles.

ν ν ξ ο. ν ν ξ ο The ſemimembranoſi. ξ the origin of the tendon from the fleſhy part. ο the tendon.

π ρ. π ρ The ſeminervoſi or ſemitendinoſi. ρ the tendon.

σ τ τ υ φ χ. σ τ υ υ φ ψ The bicipital muſcles of the legs. σ the longer head. τ τ the ſhorter head. υ φ χ the tendon, υ the firſt portion ariſing from the ſurface of the fleſhy part of the longer head, and afterwards increaſed by the

the joining of the ſhorter head χ, φ the extremity inſerted into the upper head of the fibula.

$\psi\,\omega$. $\psi\,\omega$ The external vaſti. ψ the tendinous ſurface.

Γ c. Γ c The plantares.

$\Delta\,\Delta$ The poplitei or muſcles of the hams. In the legs and feet.

Θ l &c. Θ l &c. The long peronei.

$\Lambda\,\Xi\,\Xi\,\Pi\,\Sigma\,\Sigma\,\Phi$. $\Lambda\,\Xi\,\Xi\,\Pi\,\Sigma\,\Sigma\,\Phi$ The gemelli or gaſtrocknemii muſcles. $\Lambda\,\Xi\,\Xi$ the outer head. $\Xi\,\Xi$ the tendinous ſurface. $\Pi\,\Sigma\,\Sigma$ the inner head. $\Sigma\,\Sigma$ the tendinous ſurface. Φ the tendon which forms part of the tendo Achillis.

$\Psi\,\Omega$. $\Psi\,\Omega$ The tendons called Achillis inſerted into the heel bones $\Omega\,\Omega$.

a a b. a a b The ſolei. b the tendinous ſurface.

c c The tendons of the plantal muſcles.

d d The tendons of the tibiales poſtici.

Betwixt the tendons d and ψ in the left foot; and d and the tendon of the right plantaris, appear the tendons of the long flexors of the toes.

e e The ligaments which confine the tendons near the internal ancles under which they paſs along.

f f The long flexors of the great toes.

g h i i k. g h i k The ſhort peronei. h the origin of the tendon from the fleſhy part. i i the tendon. k its inſertion into the fifth metatarſal bone.

l m m m. l m m m The long peronei. m m m the tendon.

n n The ligaments by which the tendons of the long and ſhort peronei are retained at the outer ancles.

o o The ligaments proper to the ſhort peronei.

p p The ligaments proper to the long peronei.

q q The ligaments by which the tendons are confined at the bottom of the leg and upon the back of the foot.

r r The tendons of the long extenſors of the toes.

s s The tendons of third peronei inſerted into the metatarſal bones of the little toes.

t t The ſhort extenſors of the toes.

u w x y z. u w x y z The abductors of the little toes, in the part u covered with a tendinous expanſion. w its origin from the calcaneum. x the aponeuroſis that covers the part which is inſerted into the metatarſal bone of the little toe. y the tendon of the abductor inſerted into the firſt bone of the little toe. z the aponeuroſis which joins the tendon of the long extenſor belonging to the little toe.

$\alpha\,\beta$. α The ſhort flexors of the little toes. α the part inſerted into the metatarſal bone of the little toe. β the part inſerted by a tendinous end into the firſt bone of the little toe.

$\gamma\,\gamma$ The tendon of the long flexor of the great toe, paſſing along betwixt the ſeſamoidal bones.

δ The abductor of the great toe.

ε The ſhort flexor of the toes.

$\zeta\,\eta\,\eta\,\vartheta\,\iota\,\varkappa\,\lambda\,\mu\,\nu$. $\zeta\,\eta\,\eta\,\vartheta\,\iota\,\varkappa\,\lambda\,\mu$ The deltoide muſcles. $\zeta\,\eta\,\eta$ the firſt order of the portions of which it is compoſed, $\eta\,\eta$ the ſecond and poſterior order, In the arms.

arising from the spine and upper process of the scapula. θ ι the posterior portion of the second order, arising from the upper process ι. κ λ the fourth portion of the second order, arising with the flexor of the elbow from the upper process λ. μ ν the middle portion of the second order, arising from the upper process ν.

ξ ο π ρ σ τ υ φ χ. ξ ο π ρ σ τ υ φ χ The tricipital extensors of the arms. ξ the brevis. ο the longus. π the brachialis externus. ρ the common tendon of these three heads. σ the tendinous part that is formed by the longus and joins the common tendon. τ the tendinous part in the right arm, formed by the external brachialis, and joining the common tendon: in the left arm τ is placed at the origin of this tendon from the fleshy part. υ the tendinous part arising from the surface of the external brachialis, and belonging to the greater condyle of the humerus. φ the common tendon inserted into the elbow. χ the thinner horn of the said tendon, inserted into the anterior edge of the elbow, and adjacent spine of the ulna.

ψ. ψ The internal brachiales.

ω. ω The long supinators.

In the fore-arms, and right hand.

A B C D D D D. A B C The longer external radiales. B the origin from the less condyle of the humerus. C its conjunction and common origin with the common extensor of the fingers and outer ulnaris. D D D D the tendon inserted into the metacarpal bone of the index.

E E The external brachiales arising from the roots of the less condyles.

F G. F The anconei. G the tendon arising from the less condyle of the humerus.

H. H I I I The shorter external radiales. I I I the tendon.

K. K The profound flexors, arising from each ulna.

L L The long palmares.

M. M N O P Q The sublime flexors. N the portion belonging to the middle finger. O that to the index. P that to the ring finger. Q that to the little finger.

R S T V. R S T V The internal ulnares. S T their originations, S arising from the greater condyle of the humerus, and cohering with the common tendinous head of the muscles arising from that condyle: the other origin T is from the elbow. V the tendon inserted into the pisiform bone of the wrist.

W X Y Y. W X Y Z The external ulnares. X its beginning conjoined with the beginning of the common extensor of the fingers. Y Z the tendon belonging to the fourth metacarpal bone of the hand Z. Betwixt the tendon Z and the tendon c on the back of the right hand is a small tendon from this external ulnaris to the little finger.

a b c c. a b c c The extensors proper to the little fingers. b the origin conjoined with the origin of the common extensors of the fingers. c c the tendon which runs in a small degree split, over the back of the hand.

d. d e f f g h i k l m n o p p q r r s The common extensors of the fingers. e f f g h i k l m n o the portion belonging to the ring finger, f f the tendon which runs to the ring finger, having fissures as it passes along over the back of the hand. g a branch of this tendon which afterwards splits into

two,

two, one of which joins itſelf to the tendon c of the little finger, but is not always found; the other i divides again into two, of which k likewiſe joins the tendon c of the little finger, while the other (betwixt k and f below) goes to the trunk f of the little finger: l is a portion going off from the tendon f to the tendon c of the little finger: m the tendinous portion by which the trunk of the tendon f running to the ring finger joins the tendon of the little finger at the beginning of the fingers; which portion is compoſed of the two k and l, conjoined into one, below this, where the aponeuroſis goes off from the tendon f. n the branch joining itſelf to the tendon p of the middle finger, not always found. o the tendinous portion by which the trunk of the tendon f running to the ring finger joins to the tendon p of the middle finger near its root or bend; and this portion is made up from the tendon n meeting with the aponeuroſis which goes off from the trunk of the tendon f of the ring finger, near its root or joint. p p the tendon to the middle finger, in which is a fiſſure according to its courſe over the back of the hand, q r r the portion belonging to the index, r r the tendon. s the aponeuroſis which ariſing from the tendon p of the middle finger goes to the tendon r of the index, and conjoins thoſe tendons to each other at the roots of the fingers.

t The tendon of the indicator.

u The common tendon extending the index, formed of the tendon t of the indicator, and the tendon r of the common extenſor to the index, joined together into one.

v. w. x. y. z. z. z. z The tendons of the extenſors of the fingers conjoined with the tendons and aponeuroſes of the interoſſei and lumbricales as they paſs along the backs of the fingers, &c. v that of the index formed of the tendon t of the indicator conjoined with the tendon r of the common extenſor. w that of the middle finger, x that of the ring finger, both which are from the common extenſor; y that of the little finger, which is formed of the tendon c, of the proper extenſor of the little finger, conjoined with the portions h and k l m from the common extenſor, joining with a portion from the extenſor carpi ulnaris externus. z z z z the extremities of theſe tendons inſerted into the bones of the ſecond phalanx.

α The aponeuroſis, from the capſule of the joint of this finger, with its metacarpal bone, and belonging to the tendon of the extenſor y.

β γ The abductor of the little finger. γ the tendon.

δ ε The common tendon of the abductor and ſhort flexor of the little finger, conjoined at δ with the tendon y, and being increaſed by a portion received from thence it runs to the third bone of that finger.

ζ The aponeuroſis which joins the tendon y, ariſing in its upper part from the capſule of the joint of this finger with the metacarpus, and below ſpringing from the tendon η of the interoſſeus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

η The tendon of the interoſſeus of the little finger, to which is joined the tendon of the fourth lumbricalis.

θ The

θ ι The common tendon of the interoſſeus of the little finger and fourth lumbricalis, conjoined at θ with the tendon y, and being increaſed by a portion received from thence runs to the third bone ι.

κ The common end in which the tendons ε ι unite and go to the third bone.

λ The aponeuroſis which goes to the tendon x, in its upper part coming from the capſule of the joint of this finger with the metacarpus: and below ſpringing from the tendon ν of the inner interoſſeus of the ring finger.

μ μ ν ξ ο The inner interoſſeus of the ring finger. ν the tendon which afterwards joins at ξ with the tendon x, and being increaſed by a portion received from thence, runs to the third bone ο.

π The aponeuroſis which joins the tendon x, ariſing in its upper part from the capſule of the joint of this finger with the metacarpus: in its lower part ſpringing from the tendon ρ of the outer interoſſeus of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.

ρ The tendon of the outer interoſſeus of the ring finger, to which the tendon of the third lumbricalis joins itſelf.

σ τ The tendon common to the outer interoſſeus of the ring finger and third lumbricalis, conjoined at σ with the tendon x, and being increaſed by a portion received from thence, runs to the third bone τ.

υ The common end in which the tendons ο. τ unite, and go to the third bone.

Φ The aponeuroſis that goes to the tendon w, coming in its upper part from the capſule of the joint of this finger with its metacarpus: below ſpringing from the tendon ψ of the inner interoſſeus of this middle finger.

χ ψ ω Γ The inner interoſſeus of the middle finger. ψ the tendon which afterwards joins at ω with the tendon w, and being increaſed by a portion received from thence, runs to the third bone Γ.

Δ The aponeuroſis that joins the tendon w, coming above from the capſule of the joint of this finger with its metacarpus: in its lower part produced by the tendon Ξ of the outer interoſſeus of this middle finger, with which tendon is conjoined the tendon of the ſecond lumbricalis.

Θ Θ Θ Λ Ξ The outer interoſſeus of the middle finger. Θ Θ Θ Λ the heads ariſing from the metacarpal bone of the index Θ Θ Θ and middle finger Λ. Ξ the tendon with which is conjoined the tendon of the ſecond lumbricalis.

Π Σ The tendon common to the outer interoſſeus of the middle finger with the ſecond lumbricalis, conjoined at Π with the tendon w, and being increaſed by a portion received from thence, runs to the third bone Σ.

Φ The common end in which the tendons Γ. Σ, unite and go to the third bone.

Ψ The aponeuroſis that joins the tendon v, in its upper part coming from the capſule of this joint with the metacarpus: in its lower part produced from the tendon 2 of the inner interoſſeus muſcle of this finger, the index.

1. 2. 3. 4 The inner interoſſeous muſcle of the index. 2 the tendon that afterwards joins itſelf to the tendon v, and being increaſed by a portion received from thence it runs to the third bone 4.

5. 6 The aponeurosis that joins the tendon v, being in its upper part a production from the tendon of the abductor of the index, and in its lower part 6, from the first lumbricalis.

7 The tendon of the first lumbricalis, which afterwards conjoins itself 8 with the tendon v, and being increased by a portion received from thence, runs to the third bone 9.

10 The common end in which the tendons 4 and 9 unite themselves, belonging to the third bone.

11 The outer interosseous muscle of the index.

12 The abductor of the index.

13 The tendon of the greater extensor of the thumb.

14. 15 The ligament that confines the tendon of the ulnaris externus, arising from the radius betwixt the said ulnaris and extensor of the little finger, and terminating at the tendon of the ulnaris internus; in the part 15 it is conjoined with the ligament 16.

16. 17. 18. 19 The outer annular ligament, which arises from the pisiform bone 17, from the cuneiform bone 18, and from the eminence of the radius 19, which terminates the fore part of the groove that conducts or gives passage to the tendons of the radiales externi.

20 The ligament that confines the tendons of the long abductor and less extensor of the thumb, in one part arising from the eminence of the radius, from which also arises the ligament 16.

21. 22. 23. 23 The long abductor of the thumb. 22 the tendon of its upper part. 23. 23 the tendon of its lower part.

24. 25 The less extensor of the thumb. 25 the tendon.

26 The common end in which are conjoined the tendons (13 and 25) of the greater and less extensors of the thumb, and belonging to the third bone.

27. 28 The aponeurosis which joins itself to the common end (26) of the tendons of the extensors of the thumb, part of which aponeurosis (27) invests the capsule of the joint of the thumb with its metacarpal bone, and adheres to the said capsule; while the part (28) arises from the inner tail of the short flexor of the thumb.

Betwixt 27 and 29 is the inner tail of the short flexor of the thumb.

29 30 The adductor of the thumb. 30 the tendinous end inserted into the first bone of the thumb.

In the lower part of the left elbow, and left hand.

α β The outer annular ligament, inserted into the pisiform bone β, and continued to the ligament γ δ.

γ δ The ligament that confines the tendon of the ulnaris externus, ending by the tendon of the ulnaris internus at δ.

ε The square pronator muscle.

ζ The ligament, which with the groove of the wrist forms a channel wherein are confined the tendons passing from the elbow to the hand, namely, of the sublime and profound flexors, and of the long flexor of the thumb.

π Part of the tendon given from the long to the short abductor of the thumb.

θ ι κ The ſhort abductor of the thumb. At ι it receives a part from the aponeuroſis of the long palmaris. κ the tendinous end with the aponeuroſis which it gives to the tendon of the extenſors of the thumb.

λ Part of the ſhort flexor of the thumb, which may be eſteem'd a ſecond ſhort abductor of it: 'tis inſerted with its tendinous end into the firſt bone of the thumb.

μ Two ligaments which confine the tendon of the long flexor of the thumb; the one ſeated above, at the joint of the thumb with its metacarpal bone; the other, juſt below the former, is affixed to the edges of the firſt bone, beginning ſimple, but afterwards ſplit into two horns.

ν ν The tendon of the long flexor of the thumb, inſerted into the laſt bone of the thumb.

ξ The inner tail of the ſhort flexor of the thumb, inſerted into the firſt phalanx and inner ſeſamoide bone.

ο The firſt lumbricalis.

π The adductor of the thumb.

ρ The aponeuroſis or tendinous expanſion of the long palmaris muſcle.

σ σ The ſquare or ſhort palmaris muſcle.

τ υ φ The abductor of the little finger, υ φ its origin from the piſiform bone υ, and from the inner ligament of the wriſt φ.

χ The ſmall flexor of the little finger.

ψ The tendon common to the ſmall flexor and abductor of the little finger, conjoined with the tendon of the extenſor of that finger.

ω The end of the tendon of the extenſor of the little finger belonging to the third bone.

Γ The tendon running to the third bone, formed of the tendon ψ, and joined by a portion of the tendon of the extenſor of the little finger.

Δ Δ The tendons correſponding to thoſe of ο τ υ 4. 9. 10, in the right hand.

Θ The ligament by which are confined the tendons of the ſublimis and profundus, as they paſs along the bone of the firſt phalanx or order.

Λ Three ligaments by which are retained the tendons of the ſublimis and profundus at the joint of the finger with the metacarpus. We have fixed the letter only on the middle finger, but the ſame ligaments are alſo in the fore and ring finger.

Ξ The tendons of the ſublimis and profundus.

Π The tendon of the profundus with one horn of the ſublimis.

Σ The tendon of the profundus.

The ſame parts (Θ Λ. Ξ. Π. Σ) are alſo pointed out in the other fingers.

THE

THE

Sixth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN this Figure are expreſſed the ſecond order of the muſcles in the back part of the body, together with ſome of the ligaments and naked parts of the Skeleton, with part of the ſcrotum. This correſponds to the figure of the ſecond table, of which this is the back view; but there is this difference, that in the preſent figure the Sternomaſtoidei and Cleidomaſtoidei muſcles are taken away, the back parts of thoſe muſcles having been ſufficiently repreſented in the fifth table.

The muſcles exhibited in the laſt preceding table, and here taken away, are from the head, the epicranius, the elevator of the outer ear, the anterior and three retractive muſcles of the outer ear, the ear itſelf, the orbicularis of the eye-lids, the greater zygomatic, and the latiſſimus colli. From the neck, back, and loins, are taken away the ſternocleinomaſtoidei, the cucullares, latiſſimi dorſi, and external oblique muſcles of the abdomen, and alſo from the left ſide of the back is removed the greater and leſs rhomboides. From the hips and nates are taken the large glutei. From the thighs the ſartorii. From the legs the gaſtrocknemii. From the feet the ligaments by which the tendons are confined near the inner ancles, the ligaments by which the tendons of the long and ſhort peronei are retained at the outer ancles; the ligaments proper to the ſhort peronei, the ligaments peculiar to the long peronei, the ligaments by which the tendons are confined at the bottom of the leg, and upon the backs of the feet, the abductors of the little toes; the aponeuroſes joining the tendons belonging to the little toes, to the tendons of the long extenſors of the other toes. From the arms are taken the deltoidei.

From the fore-arms and beginning of the hands are taken the long ſupinators, the common extenſors of the fingers, the extenſors proper to the little fingers, the external ulnares, the long palmares, the outer circular ligaments, the ligaments which confine the tendons of the outer ulnares. Alſo from the extreme part of the right fore-arm is taken the ligament by which are confined the tendons of the long abductor and ſhort extenſor of the thumb. From the left hand likewiſe is taken the ſhort palmaris, the ſhort abductor of the thumb, the ligaments by which is confined the tendon of the long flexor of the thumb, the ligaments by which are confined the tendons of the ſublimis and profundus at the joints of the fingers, with their metacarpal bones, and thoſe by which the tendons are confined at the firſt bones of the fingers.

In the head, neck, and back.

A B B B C D The temporal muſcle. B B B C the firſt beginning of its origin from the convexity of the parietal bone B B B, and from the mammillary proceſs C. B the tendon.

E F G H The maſſeter. E F the outer portion, F the extremity inſerted into the lower jaw. G H the back part of the inner portion, which is not covered by the outer portion; H its origin from the zygomatic proceſs of the temporal bone and from the os jugale.

I The internal pterygoideus muſcle, inſerted into the lower jaw.

K The mylohyoideus ariſing from the lower jaw.

L The firſt belly of the digaſtric muſcle of the lower jaw.

M N. M N The biventers or digaſtrics of the neck. N the tendinous end inſerted into the occipital bone. Soon after O beneath appear the two interſpinales colli, betwixt the ſpine of the fifth and ſixth vertebra of the neck.

P Q R S. P Q R S The ſplenei muſcles of the head. Q the beginning or riſing from the ligament of the next. R S the tendinous end inſerted into the occipital bone R, and into the mammillary bone and proceſs S.

T. T U V The ſplenei muſcles of the neck. U V the beginnings of which one U ariſes from the ſpine of the tenth vertebra of the back, and the other V from the ninth.

W W The trachelomaſtoidei muſcles.

X X Portions of the longiſſimi dorſi muſcles running to the neck.

Y Y The tranſverſe muſcles of the neck.

Z a. Z a The elevators of the ſhoulder-blades, a ariſing from the ſcapula.

æ b. æ b c d e f g h i k l The poſterior and upper ſerrati. æ the tendinous part, b the fleſhy part, c d e f the orgin from the ligament of the neck c, from the ſpine of the lower vertebra of the neck d, and the uppermoſt of the back e, and from the eleventh f. g h i k l the four extremities, of which g belongs to the ſecond rib, h to the third, i to the fourth, and k l to the fifth, inſerted into that rib at l.

m n o The leſs rhomboides. n the tendinous beginning ariſing from the ligament of the neck. o the end inſerted into the ſcapula. the left rhomboides is removed.

p p q r s t u v w x x The greater rhomboides. p p the tendinous beginning. q the fleſhy part. r s t u v the origin from the ſpines of the vertebræ, r that from

from the loweſt of the neck, from the twelfth of the back s, from the eleventh t, from the tenth u, from the ninth v. w in this part it is incurvated according to the baſis of the ſcapulæ without inſerting itſelf. x x its inſertion. The left is removed.

y The biventer of the neck.

z The ſemiſpinalis muſcle of the back.

α β γ δ ε ζ η θ ι. α β γ δ ε ζ η θ ι The ſpinales of the back. β the portion that belongs to the ſpine of the eleventh vertebra of the back: γ that to the tenth: δ that to the ninth: ε that to the eighth: ζ that to the ſeventh: η that to the ſixth: θ that to the fifth. ι the head by which it ariſes from the ſpine of the third vertebra.

κ λ. κ λ The longiſſimus dorſi muſcle. λ the tendinous part.

μ ν ξ ο π ρ σ ς τ υ. μ ν ξ ο π ρ σ ς τ The ſacrolumbales. μ the fleſhy part. ν the tendinous tail that belongs to the ninth rib: ξ that to the eighth: ο that to the ſeventh: π that to the ſixth: ρ that to the fifth: σ that to the fourth: ς that to the third: τ that to the ſecond: υ that to the firſt.

φ. χ. ψ. ω. Γ. Δ Δ. Θ. Λ: ω. Γ. Δ Δ. Θ. Λ The outer intercoſtals. φ the fourth with the elevator of the fifth rib, χ the fifth, ψ the ſixth, ω the ſeventh, Γ the eighth, Δ Δ the ninth, Θ the tenth, Λ the eleventh.

Ξ Ξ The eleventh internal intercoſtals.

Π Σ Φ Ψ Ω A B. Π Σ Φ Ψ Ω A B The great ſerrati muſcles. Σ the head that ariſes from the fifth rib: Φ that from the ſixth: Ψ that from the ſeventh: Ω that from the eighth: A that from the ninth: B that from the tenth rib. In the ſide of the thorax, and lower part of the trunk.

C D E E F G G H I K L. C D E E F G G H I K L The poſterior and lower ſerrati. C the tendinous part. D F H K the fleſhy part. D the firſt head inſerted into the ninth rib E E. F the ſecond head inſerted into the tenth rib G G. H the third head inſerted into the eleventh rib I. K the fourth head inſerted into the twelfth rib L.

M N O O P Q R S T. M N O O P Q R S T The internal oblique muſcles of the abdomen. M the fleſhy part. N the tendinous part. O O the tendinous beginning from the ſpine of the ilium. P Q the extremity inſerted into the twelfth rib, into the bony part P and cartilage Q. R S the end inſerted into the eleventh rib, into its bony part R and its cartilage S. T the end that belongs to the tenth rib.

U V W X Y Z a b b b. U V W X Y Z a b b b The broad tendons by which the latiſſimi dorſi begin. V W its origin from the ſpines of the two lower vertebræ of the back, and all thoſe of the loins and os ſacrum. X Y its origin from the two oblique proceſſes which are placed at the ſides of the opening of the canal of the os ſacrum in its lower part. Y Z the part in whice it adhered with the gluteus magnus. a its origin from the ſpine of the ilium. b b b the broad tendon here cut off, where it no longer adheres with the tendon beneath, by which ariſe the lower ſerratus poſticus and internal obliquus of the abdomen.

c c The multifide muſcle of the ſpine.

d d The coccygei muſcles.

e e The elevators of the anus.

f The external ſphincter of the anus.

g g The ſecondary tranſverſe muſcles of the perinæum ariſing from the oſſa pubis.

h h The tranſverſe muſcles of the perinæum ariſing from the tubercles of the iſchia.

i k k k l. i k k k l The middle glutei in which are impreſſed the footſteps of the largeſt glutei (conſult Tab. V.) k k k the origin from the os ilium. l the tendon inſerted into the greater trochanter.

m The great pſoas.

n o p. n o p The pyriform muſcles. o the origin from the os ilium, p the tendon.

q r. q r The upper of the gemini. r the tendinous extremity. s t u. s t u the lower of the gemini. t the origin from the tubercle of the iſchium. u the tendinous end.

v v. v v The external obturators.

w w x y. w x x y The internal obturators. w the portion ſeated in the pelvis, where the part x ariſes from the anterior face and margin of the great foramen of the os innominatum. y the part which goes along the back of the os ilium betwixt the gemini.

In the thighs, legs, and feet.

z α α. z α α The quadrati of the thighs. α α the end inſerted into the thigh bone.

β γ δ δ. β γ δ δ The external vaſti. γ the tendinous part. δ δ its origin from the thigh bone.

ε ε ζ ζ η ϑ ϑ. ε ε ζ ζ η ϑ ϑ The large adductors of the thighs. ζ ζ the origin from the tubercle of the iſchium. η part of the tendinous beginning. ϑ ϑ part of the extremity inſerted into the thigh bone.

θ ι κ λ λ μ ν ξ. θ ι κ λ λ μ ν ξ The bicipital muſcles of the legs. θ ι κ the longer head. ι κ the tendon by which it begins and ariſes from the back of the tubercle of the iſchium which joins the beginning of the ſemitendinoſus, λ λ the ſhorter head. μ ν ξ the common tendon in which terminate the two heads; μ ariſing firſt from the fleſhy ſurface of the longer head, and then being increaſed by joining the ſhorter head ν, at length terminates with a ſhort extremity ξ in the upper head of the fibula.

ο π ρ σ ς. ο π ρ σ ς The ſemitendinoſi. π the tendinous part of its origin, ariſing from the back of the tubercle of the iſchium ρ, it then joins the tendinous beginning of the longer head of the biceps of the leg, from which beginning it departs. σ the origin of the fleſhy part which is ſometimes tendinous ariſing from the back of the tubercle of the iſchium. ς the tendon.

ς τ. ς τ The graciles. τ the tendon.

υ. υ The internal vaſti muſcles.

φ φ χ ψ ω Γ. φ φ χ ψ ω Γ The ſemimembranoſi. χ the origin of the tendon from the fleſhy part, ψ the tendon. ω the more conſiderable part of the tendon inſerted into the oblique rough eminence which is below the back part of the root of the upper head of the tibia, where it ſuſtains the inner condyle

condyle of the thigh bone. Γ the thinner portion which the tendon ſends off to the inner edge of the tibia.

Δ Δ The inner heads of the gemelli or gaſtrocknemii of the legs, Θ Θ the outer heads cut off.

Λ Λ Ξ Π. Λ Λ Ξ Π The poplitei. Ξ the tendon by which it ariſes. Π the tendinous ſurface.

Σ Φ. Σ Φ The plantares. Φ the tendon.

Ψ Ψ Ω Ω Ω A B B. Ψ Ψ Ω Ω Ω A B B The ſolei muſcles. Ω Ω Ω the tendinous ſurface by which the tendon of its back part begins. A the origin from the upper head of the fibula. B B a mark like a notch where is a tendinous part within the fleſh, dividing the ſaid muſcular fleſh like a tendinous partition.

C C The tendons of the gemelli cut off.

D E. D E The tendons of Achilles inſerted into the heel bones E E.

F F The tendons of the long flexors of the toes.

G G The tendons of the tibiales poſtici.

H H The long flexors of the great toes.

I K L M. I K L M The ſhort peronei. K the origin of the tendon from the fleſhy part, L the tendon inſerted into the metatarſal bone M of the little finger.

N N O P Q R S T. N N O P Q R S T The long peronei. O the origin from the root of the upper head of the fibula. P the origin of the tendon from the fleſhy part. Q R S T The tendon. R S T the knots or bendings. R that where the tendon inflects itſelf at the outer ancle; S the ſecond which is at the eminence of the heel bone; T the third at the cubical bone.

U U The tendons of the long extenſors of the toes.

V V The tendons of the third peronei inſerted into the metatarſal bones of the little toes.

W W The ſhort extenſors of the toes.

Below at X is the maſs or head which joins the long flexor of the toes in the ſole of the foot.

Y Y The ſhort flexors of the toes. The four tendons of the left are viſible.

Z. Z α β γ The ſhort flexors of the little toes, ariſing from the metatarſal bones of thoſe toes. α the part connected to the metatarſal bone of the little toe. β γ the part belonging to the firſt bone of that toe, γ the tendinous end. In the feet.

δ δ The tendons of the ſhort flexors of the toes, together with the tendons of the long flexors belonging to the little toes.

ε ε The tendon of the long flexor of the great toe, paſſing betwixt the ſeſamoide bone.

ζ The great ſerratus muſcle.

η. η The coracohyoidei.

θ The ſubclavian muſcle. In the ſhoulders, and arms.

ι κ. ι κ λ. The ſupraſpinati. κ the origin from the ſcapula. λ the tendinous end inſerted into the larger unequal protuberance of the upper head of the humerus.

μ ν ξ ο

μνξοπρσςς. μνξοπρσςς The infraſpinati. νξ the origin from the baſis of the ſcapula, ξο the origin from the ſpine. π the tendon where it begins firſt to apper. ρ. σ the fleſhy portions joining to that tendon. ρ the upper portion from the ſpine; σ the lower portion from the lower angle. ς the tendinous end, inſerted into the larger unequal protuberance ς of the upper head of the humerus.

τυφχ. τυφχ The leſs teretes. υ the tendon inſerted into the os humeri. φ. χ the fleſhy portions with the tendon inſerted partly above φ, and in part below χ. The inſertion is into the larger unequal protuberance of the upper head and lower part of the neck of the humerus.

ψψ. ψψ The larger teretes.

ωABBCDEFGHIKLLMNN. ωABBCDEFGHIKLLMNN The tricipital extending muſcles of the arms. ω A B B the brevis in the upper part of which is a ſinus impreſſed by the deltoides: (ſee Tab. V.) A the tendinous part, B B the origin from the humerus, C D the long extenſor in the upper part of which is a ſinus impreſſed by the deltoides (ſee Tab. V.) D the tendinous part, E the external brachialis. F the common tendon of theſe three heads. G the tendinous part formed by the long extenſor and joining the common tendon. H the tendinous part formed by the external brachialis which joins the common tendon. I the tendinous part which ariſing from the ſurface of the external brachialis, belongs to the greater condyle of the humerus. K the common tendon inſerted into the elbow. L L the thinner horn of this tendon here cut off, which is inſerted into the fore part of the olecranum and ſpine of the ulna next adjacent. M N N part of the external brachialis from the root of the leſſer condyle N N, and ariſing from the margin of the os humeri above it.

O O The bicipital muſcles of the arms.

P P The internal brachial muſcles.

QRSTTU The longer external brachiales. R the origin from the leſſer condyle and from the margin of the humerus above it. S the part where it was conjoined with the common extenſor of the fingers and internal ulnaris. T T U the tendon inſerted into the metacarpal bone of the index.

V. V W W X The ſhorter external radiales. W W the tendon inſerted into the metacarpal bone X of the index and little finger.

YZΓΓ The anconei. Z the tendon ariſing from the leſſer condyle of the humerus. Γ Γ the extremity inſerted into the fore part of the elbow and margin of the ulna below that part of the elbow.

Δ. ΔΘ The ſhort ſupinators. Θ the tendinous beginning ariſing from the leſs condyle of the humerus.

Λ. ΛΞΠΣΦΦ The long abductors of the thumbs. Ξ part of its origin. Π the part from the radius. Σ the tendon of its upper part. Φ Φ the tendon of its lower part.

Ψ. ΨΩ The leſs extenſors of the thumbs. Ω the tendon.

ab. abc The larger extenſors of the thumbs. b the origin from the ulna. c the tendon.

de The

d e The common end in which unite the tendons of the greater c and leſs extenſor Ω of the thumb, inſerted into the third bone of the thumb e.

f g. f g h The indicators. g the origin from the ulna. h the tendon.

i k k. i k k The profundi. k k the origin from the ulna.

l m n o p q. l m n o p q The internal ulnares. m the beginning ariſing from the greater condyle of the humerus, and cohering with the common tendinous head of the muſcles which ariſe from that condyle. n the beginning from the broad part of the elbow n o p; and departing from the tendinous faſcia or covering of the cubit n o, and ariſing alſo from the ulna p, the tendon q is inſerted into the piſiform bone of the wriſt.

r The ſquare pronator muſcle.

s. s t u v w x y z α The ſublime flexors. t the portion belonging to the middle finger; u that to the index, v that to the ring finger. w that to the little finger. x y z α the tendons. x that of the index. y that of the middle finger. z of the ring finger. α of the little finger. In the left hand.

β. γ. δ. ε The lumbrical muſcles of the fingers, β that of the index, γ that of the middle finger, δ that of the ring finger, ε that of the little finger.

ζ η The ſmall flexor of the little finger. η the origin from the interior ligament of the carpus.

θ ι κ The abductor of the little finger. ι κ the origin, from the piſiform bone of the wriſt ι, and from the inner ligament of the wriſt κ.

λ The tendon common to the ſmall flexor and abductor of the little finger, conjoined to the tendon of the extenſor of that finger.

μ The end of the extenſor tendon of the little finger, belonging to the ſecond bone.

ν The tendon running to the third bone, formed of the tendon λ, and joined by a portion of the extenſor tendon of the little finger.

ξ. ξ The ſame tendons which in the right hand are are marked ς χ ψ. t x y.

ο. ο The tendons of the profundi.

π The ligament which with the cavity in the wriſt forms a canal, wherein are confined the tendons of the ſublimis, profundus, and long flexor of the thumb, paſſing from the fore-arm to the hand.

ρ σ ς The opponent muſcle of the thumb. σ its origin from the inner ligament of the wriſt. ς its end inſerted into the metacarpal bone of the thumb.

τ υ φ Part of the ſhort flexor of the thumb, which may be reckoned as a ſecond ſhort abductor of the thumb. υ its origin from the inner ligament of the carpus. φ its tendinous end inſerted into the firſt bone of the thumb.

χ ψ The poſterior tail of the ſhort flexor of the thumb, inſerted into the firſt internode ψ, and poſterior ſeſamoide bone of the thumb.

ω The adductor muſcle of the thumb.

Γ Δ The tendon of the long flexor of the thumb, in a manner ſplit or divided. Δ its inſertion into the laſt bone of the thumb.

α. β. γ. δ The tendons of the extenſors of the fingers as they paſs over the joints, conjoined with the tendons and aponeuroſes of the interoſſei, lumbrical, &c. muſcles. They are cut off at the roots of the fingers, except in the index, in which that tendon only is cut off which it receives from the common In the right hand.

common extenſor. ε. ε. ε ε the ends of thoſe tendons inſerted into the ſecond order of bones.

ζ η The abductor of the little finger. η the tendon.

θ The tendon common to the abductor and ſmall flexor of the little finger joined with the tendon α, and being increaſed by a portion received from thence, runs to the third bone ι of the little finger.

κ The aponeuroſis, from the capſule of the joint of this finger with its metacarpal bone, belonging to the tendon α.

λ The tendon of the interoſſeus of the little finger, to which is conjoined the tendon of the fourth lumbricalis.

μ The tendon common to the interoſſeus of the little finger and fourth lumbricalis, conjoined with the tendon α, and being increaſed by a portion received from thence, runs to the third bone ν.

ξ The common tendinous end ι ν, belonging to the third bone.

ο The aponeuroſis which joins the tendon α, coming in its upper part from capſule of the joint of this finger with its metacarpus: and below it is produced by the tendon λ of the interoſſeus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

π ρ σ The inner interoſſeus of the ring finger. π one head of it ariſing from the metacarpal bone of the little finger. ρ the other head from the bone of the ring finger. σ the tendon which afterwards joins itſelf at ς with the tendon β, and being increaſed by a portion received from thence, runs to the third bone ς.

τ The aponeuroſis which joins the tendon β, coming in its upper part from the capſule of the joint of this finger with its metacarpus; and below it is produced from the tendon of the inner interoſſeus β, of the ring finger σ.

υ The tendon of the outer interoſſeus muſcle of the ring finger, to which is conjoined the tendon of the third lumbricalis.

φ The tendon common to the outer interoſſeus of the ring finger and third lumbricalis, conjoined with the tendon β, and being increaſed by a portion received from thence, runs to the third bone χ.

ψ The common end of the tendons ς. χ, belonging to the third bone.

ω The aponeuroſis which joins the tendon β, coming in its upper part from the capſule of the joint of this finger with its metacarpus: below produced from the tendon υ of the outer interoſſeus of the ring finger, with which tendon is conjoined the tendon of the third lumbricalis.

a b c The inner interoſſeus of the middle finger. a one head ariſing from the metacarpal bone of the ring finger: b the other head from that of the middle finger. c the tendon which afterwards joins at f with the tendon γ, and being increaſed by a portion received from thence, it runs to the third bone g.

h The aponeuroſis that joins the tendon γ, coming in its upper part from the capſule of the joint of this middle finger with the metacarpus: in its lower part produced from the tendon c of the inner interoſſeus of this middle finger.

i i k k l The outer interoſſeus of the middle finger. i i one head ariſing from the metacarpal bone of the middle finger: k k the other head from the bone

bone of the index. l the tendon to which is joined the tendon of the ſecond lumbricalis.

m The tendon common to the outer interoſſeus of the middle finger and ſecond lumbricalis, conjoined with the tendon γ, and being increaſed by a portion received from thence, it runs to the third bone n.

o The common end of the tendon, g n belonging to the third bone.

p The aponeuroſis which joins the tendon γ, coming in its upper part from the capſule of the joint of this finger with the metacarpus: in its lower part produced by the tendon l of the outer interoſſeus of this middle finger with which tendon is conjoined the tendon of the ſecond lumbricalis.

q r The inner interoſſeus of the index. r the tendon which afterwards joins at s with the tendon δ, and being increaſed by a portion received from thence, it runs to the third bone t.

u The aponeuroſis that joins the tendon δ, coming in its upper part from the capſule of the joint of this finger with the metacarpus: below it is produced from the tendon r of the inner interoſſeus of this fore-finger.

v The tendon of the firſt lumbricalis, which afterwards joins at w with the tendon δ, and being increaſed by a portion received from thence, it runs to the third bone x.

y The common end in which meet the tendons t x belonging to the third bone.

z 1 The aponeuroſis that joins the tendon δ, produced in its upper part z from the abductor of the index: in its lower part from the firſt lumbricalis 1.

2 The outer interoſſeous muſcle of the index.

3 The abductor of the index.

4. 5 The aponeuroſis which joins the common end of the extenſor d of the thumb. Part of it 4 ſurrounds the capſule of the joint of this finger with its metacarpus, and adheres to the ſaid capſule: the part 5 comes from the inner tail of the ſhort flexor of the thumb.

6 The inner tail of the ſhort flexor of the thumb.

7. 8 The adductor of the thumb; 8 its tendinous end inſerted into the firſt bone of the thumb.

THE

Seventh Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

HERE follows the third order of the muſcles on the back part of the body, with ſome of the ligaments and naked parts of the Skeleton; for here we have removed moſt of the outer parts exhibited in the figure laſt preceding. This figure correſponds to that of the third table, and gives a back view thereof, with this difference, that, in the firſt place, the outer ſphincter of the anus is here taken away, as being ſufficiently repreſented before in the ſixth table; and ſecondly, that in the right hand of this figure, contrary to that of the third table, are repreſented the tendon of the abductor of the little finger, and the tendon common to that abductor with the ſmall flexor; and this was done to avoid leſſening the tendinous communication ſtretched over the back of the little finger.

The muſcles here taken off are, from the head, the temporalis, the maſſeter, the digaſtric of the lower jaw. From the neck, back and loins, the ſplenii of the head and neck, the elevators of the ſcapulæ, the greater and leſs rhomboidals, the poſterior and upper ſerrati, the great ſerrati, the lower poſterior ſerrati, and the internal obliqui of the abdomen, together with the broad tendons by which the latiſſimi dorſi begin. From the parts about the nates and hips are taken the middle glutei, the pyriformes, the upper and lower gemelli, the quadrati of the thighs, coccygei, the elevators of the anus,

anus, the tranſverſales of the perinæum both primary and ſecundary, with the outer ſphincter of the anus, and the teſticles. From the thighs the ſemitendinoſi, the longer heads of the bicipitals of the legs, with the external and internal vaſti. From the legs are taken the plantares, and the ſolei with the tendons of Achilles. From the feet the tendons of the common extenſors of the toes and third peronei, the ſhort flexors of the intermediate and little toes. From the ſhoulder-blades the coracohyoidei, ſubclavius, ſupraſpinati, infraſpinati, and leſs teretes. From the arms are taken the bicipital flexors, with the long and ſhort extenſors of the elbow. From the fore-arms and hands, the anconei, the long abductors of the thumbs with their greater and leſs extenſors, the indicators, the outer ulnares and ſublimes. From the left hand the abductor and ſhort flexor of the little finger, part of the ſhort flexor of the thumb (which may be reckoned as a ſecond ſhort abductor of it) and the oppoſer of the thumb. From the right hand the abductor of the little finger, the head of the inner interoſſeus of the ring finger, ariſing from the metacarpal bone of the little finger, the head of the inner interoſſeus of the middle finger ariſing from the metacarpal bone of the ring finger. The head of the outer interoſſeus of the middle finger ariſing from the metacarpal bone of the index, the abductor of the index, the aponeuroſis which inveſts the capſule of the joint of the thumb with its metacarpal bone, faſtened to the ſaid capſule, and conjoining itſelf to the common end of the tendons of the extenſorsof the thumb.

In the head, neck, and trunk.

a The buccinator muſcle.

b The portion that joins the orbicularis of the mouth, ariſing from the lower jaw.

c The internal pterygoideus inſerted into the lower jaw.

d e e Mylohyoideus. e e the origin from the lower jaw.

f g h i k l l m m n. f g h i k l l m m n The biventers of the neck. f the firſt belly. g the tendon betwixt the venters. h the portion ariſing from the uppermoſt vertebra of the ſpine, and detached partly to the middle tendon i, and in part to the ſecond belly k. l l the ſecond belly, inſerted into the occipital bone by the tendinous end m m. n the tendinous part of the ſecond belly.

o o. o o The ſpinal muſcles of the neck.

p. q. r. s. t The left interſpinals of the neck, cloſe to which lie the right. p that betwixt the ſpines of the firſt and ſecond vertebra of the neck: q between thoſe of the ſecond and third: r between thoſe of the third and fourth: s between thoſe of the fourth and fifth: t betwixt the ſpines of the fifth and ſixth.

u v. u v The complexi muſcles. v the tendinous part.

w. w x The upper oblique muſcles of the head. x the part inſerted into the occipital bone.

y. y The lower oblique muſcles of the head.

z A B. z A B The trachelomaſtoidei. A the tendinous part. B the tendinous end, inſerted into the maſtoide proceſs.

C C. C C The tranſverſales of the neck.

D. D The cervicales deſcendentes.

E. E The middle ſcaleni.

F G H. F G H The poſterior ſcaleni. F its origin from the ſecond rib. G the tail belonging to the tranſverſe proceſs of the third vertebra of the neck, H to the ſecond.

I. K. L. M: I. K. L. M The elevators of the ribs. I of the ſecond. K of the third. L of the fourth. M of the fifth.

N. O. P. Q. R R. S S. T. U. V. W: N. O. P. Q. R. S S. T. U. V. W The outer intercoſtal muſcles. N the ſecond. O the third, &c.

X. X The twelfth of the inner intercoſtal muſcles.

Y Z α β Y Z α β The tranſverſe muſcles of the abdomen. Y the fleſhy part, Z the broad tendon by which it ariſes, and adheres to the bottom of the edge of the lowermoſt or twelfth rib, as well the bony part α, as cartilage β, even to its tip.

γ γ. γ γ The inner plates of the common aponeuroſes of the lower poſterior ſerrati, and inner oblique muſcles of the abdomen; they are here cut off where they no longer adhere to the broad tendons by which the tranſverſe muſcles of the abdomen begin.

δ ε ζ η θ ι κ κ λ μ ν ξ ο π ρ σ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω δ ε ζ η θ ι κ κ λ μ ν ξ ο π ρ σ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω The ſacrolumbales with the longiſſimi muſcles of the back. δ ε ζ η θ ι κ κ λ μ the common head by which they begin. δ the tendinous part, ε the fleſhy part. ζ η θ the origin of that head from the ſpine or edge of the os ilium, ζ the fleſhy part, η θ the tendinous part. θ ι the part where it adheres to the gluteus magnus. ι κ the tendinous part ariſing from the two upper tubercles near the opening of the end of the canal of the os ſacrum. κ κ the tendinous part diſcontinued one from the other, compoſed of the tendons ariſing from the ſpines of the two lower lumbal vertebræ and all thoſe of the os ſacrum. λ the tendon ariſing from the ſpine of the third lumbal vertebra. μ the diviſion of this common head into the ſacrolumbalis and longiſſimus dorſi muſcles.

ν ξ ο π ρ σ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π. ν ξ ο π ρ σ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π The ſacrolumbales. ν ξ, &c. the tails belonging to the ribs: ν ξ that to the eleventh rib, ο π to the tenth, ρ σ to the ninth, ς ς to the eighth, τ υ to the ſeventh, φ χ to the ſixth, ψ ω to the fifth, Γ Δ to the fourth, Θ Λ to the third, Ξ to the ſecond, Π to the firſt: ν ο ρ ς τ φ ψ Γ Θ the fleſhy parts of thoſe tails. ξ. π. σ. ς. υ. χ. ω. Δ. Λ. Ξ. Π the tendinous parts.

Σ Φ Ψ Ω. Σ Φ Ψ Ω The longiſſimi dorſi. Φ the tendinous part of the common head running thro' the longiſſimus. Ψ the tail aſcending thro' the neck, where it gives a tendinous portion Ω to the trachelomaſtoideus, and at laſt joins itſelf to the deſcending cervicalis.

In the trunk.

a b c d e g h. a b c d e g h The ſemiſpinales of the back. b the head ariſing from the tranſverſe proceſs of the ſixth vertebra of the back, counting from the loins. c the tendinous end which is inſerted into the ſpine of the ſecond vertebra of the neck from the back; d that to the firſt of the neck; e that to the uppermoſt of the back; g to the eleventh of the back; h to the tenth.

i k l m

i k l m n p q r s t u v w. i k l m n p q r s t u v w The ſpinales of the back. k the head ariſing tendinous from the ſpine of the third vertebra of the back, counting from the loins; l the head from that of the ſecond; m from that of the firſt; n from that of the fifth vertebra of the loins; p from that of the fourth. q the extremity inſerted (by the tendon which it forms) into the ſpine of the fifth vertebra of the back; r the end to the ſixth; s to the ſeventh; t to the eighth; u to the ninth; v to the tenth; w to the eleventh.

Betwixt the heads of the ſpinales dorſi, near the ſpines, and betwixt the parts of the longiſſimi dorſi λ x appear the multifidi ſpinæ.

Betwixt the ſpines of the three lower vertebræ of the back appear the interſpinales of the back.

Betwixt the ſpine of the loweſt vertebra of the back and uppermoſt of the loins, appear the interſpinales lumborum, as alſo they appear betwixt the ſpines of the lumbal vertebræ, and between the lower lumbal ſpine and uppermoſt of the os ſacrum. The ſpaces are ſo minute that letters could not be fixed on them; but Tab. VIII. will give a better knowledge of them.

x x The multifidi of the ſpine.

y y The great pſoæ or lumbal muſcles of the thighs.

z Γ Γ Γ Δ. z Γ Γ Γ Δ The leaſt glutei. Γ Γ Γ the origin from the back of the os ilium. Δ the tendinous part by which the tendinous end begins from the outer part of the fleſh.

Θ Λ Λ Λ Ξ Π. Θ Λ Λ Ξ Π The internal obturators. Θ the part ſeated in the pelvis, and there ariſing from the margin of the great foramen Λ Λ Λ of the os innominatum. Ξ Π the part which goes over the back of the iſchium to the femur. Π the tendon which it forms.

Σ Σ Φ. Σ Σ Φ The external obturators. Φ the tendinous end.

Ψ. Ψ The internal iliacs, by their inſertions.

Ω. Ω The tendons common to the great lumbal or pſoæ muſcles and internal iliacs, inſerted into the leſs trochanters.

A B C D E F G. A B C D E F G The ſemimembranoſi. A the tendon by which it begins and ariſes at B from the back of the tubercle of the iſchium. C the fleſhy belly. D the origin of the tendinous tail from the fleſh. E the principal part of the ſaid tail belonging to the upper head of the tibia: F the poſterior aponeuroſis which this muſcle inſerts below the root of the upper head of the tibia: G the anterior aponeuroſis which it inſerts into the inner margin of the tibia. In its head and belly is a ſinus impreſſed by the ſemitendinoſus: ſee Tab. VI.

H I. H I The graciles. I the tendon.

K L M N O O. K L M N O O The large adductors of the thighs, in which are impreſſed the marks of the large glutei: ſee Tab. V. L the part ariſing from the os pubis. M its origin from the tubercle of the iſchium, externally tendinous. N O O the upper end inſerted into the femur O O.

P Q R S. P Q R S The ſhorter heads of the biceps muſcles of the legs. Q part of the tendon cut off which ariſes from the longer head. R part of the

the tendon which is increaſed by the acceſſion of the fleſh of the ſhorter head. S the tendinous end inſerted into the upper head of the fibula.

T. T The outer heads of the gemelli of the legs. U U the inner, cut off.

V. V The plantares muſcles cut off.

W X Y. W X Y The poplitei. X the tendon by which it begins. Y a tendinous part.

Z a b c d e. Z a b c d e The tibiales poſtici. a the part which ariſes from the tibia: b the part from the fibula. c d the tendinous ſurface. e the tendon.

f g. f g The long flexors of the toes. g the tendon.

h i k. h i k l l The long flexors of the great toes. i the origin from the tibia. k the tendon. l l its courſe under the bottom of the foot and toe.

m n o o p q r s t. m n o o p q r s t The long peronei. n one of its origins, from the head of the fibula. o o the other from the ſpine of the fibula. p q r s t the tendon, ariſing from the fleſh at p: r s t the knots or turnings of the tendon, r the firſt by which it bends at the outer ancle; s the ſecond, at the protuberance in the outer ſide of the calcaneum; t the third at the cubiform bone.

u v w x. u v w x The ſhort peronei. v part of the tendon ariſing from the fleſh: w the tendon, inſerted at x into the metatarſal bone of the little toe.

y z α β. y z α β The ſhort extenſors of the toes. z the tail belonging to the third of the ſmall toes, α that to the ſecond, β that to the firſt.

γ. γ: γ. γ The tendons ſtretched over the backs of thoſe toes.

δ. δ The heads which join the long flexors of the toes in the ſoles of the feet.

ε. ε The interoſſei muſcles of the little toes.

ζ The tendons of the long flexors of the toes, joined with the lumbricales as they paſs along.

η The tail of the ſhort flexor of the great toe, which belongs to the ſeſamoide bone next the firſt of the ſmall toes.

θ θ The tendons of the long flexors to the ſmall toes.

In the ſhoulders, upper extremities, and left hand.

ι ι The ſubſcapular muſcles.

κ λ μ. κ λ μ The larger teretes. λ the origin from the angle of the ſcapula. μ the tendinous part.

ν. ν The coracobrachiales.

ξ o o o π ϱ σ. ξ o o o π ϱ σ The external brachiales; in which are impreſſed the marks of the long and ſhort extenſor of the elbow: ſee Tab. VI. o o o its origin from the humerus, and from the root of the anterior condyle π, ϱ the tendinous part. σ a tendinous part ariſing from the ſurface of the outer brachialis, and belonging to the greater condyle of the humerus.

ς The fleſhy part of the extenſor longus cut off. ς part of the brevis cut off, which is outwardly tendinous, inwardly fleſhy. τ the place from whence is cut off part of the common tendon of the three heads of the triceps brachialis, υ φ χ ψ the common tendon of the triceps brachialis, inſerted into the elbow or head of the ulna at φ. χ the tendinous part from the longus to the common tendon: ψ the tendinous part formed by the brachialis externus, which joins the common tendon.

A. A The brachialis internus, wherein is a ſinus impreſſed by the ſupinator longus: ſee Tab. VI. A the origin of the outer horn from the os humeri.

B C C D. B C C D E F The longer of the external radiales. C C its origin from the anterior edge and condyle of the os humeri, D the part where it is conjoined and has a common origin with the common extenſor of the fingers and outer ulnaris. E the tendon inſerted at F into the metacarpal bone of the index.

G. G H I The ſhorter external radiales, having a ſinus impreſſed by the common extenſors of the fingers: ſee Tab. VI. H the tendon inſerted at I into the metacarpal bones of the index and middle finger.

K L M N N. K L M N N The ſhort ſupinators. L M part of the tendinous origin from the anterior condyle of the humerus at L, and connected at M with the capſule of the joint of the elbow. N N part of the origin from a protuberance of the ulna, outwardly tendinous.

O O The long flexors of the thumbs.

P P The ſquare pronators.

Q R S S. R S S T T U U U V V W W The profundi flexors. S S the origin from the ulna. T T the tendon belonging to the little finger, U U U the tendon to the ring finger, V V that to the middle finger, W W that to the index.

X X Y The tendon of the long flexor of the thumb, inſerted at Y into the laſt bone of the thumb.

Z Γ Δ Θ The ligament, which with the carpal ſinus forms a channel wherein are confined the tendons of the ſublimis and profundus from the fore-arm to the hand, with the long flexor of the thumb. Γ the origin of this ligament from the piſiform bone, from the unciform proceſs of the cuneiform bone Δ, and from the larger multangular bone Θ.

Λ The ligament that goes from the piſiform bone to the fourth bone of the metacarpus.

Ξ Π Σ The adductor of the metacarpal bone of the little finger, ariſing at Π from the carpal ligament, and inſerted at Σ into the fourth metacarpal bone.

Φ Ψ The ſhort flexor of the thumb. Φ one tail inſerted tendinous into the ſeſamoide bone of the thumb which is fartheſt from the index. Ψ the other tendinous end inſerted into the firſt internode and ſeſamoide bone of the thumb neareſt the index.

Ω The adductor of the thumb.

1. 2. 3. 4 The lumbrical muſcles of the fingers; 1 that of the index, 2 that of the middle finger, 3 that of the ring finger, 4 that of the little finger.

5 The tendon of the extenſors of the little finger, belonging to the firſt bone of that finger at 6.

7 The tendon common to the ſmall flexor and abductor of the little finger, joined to the tendon of the extenſor of that finger.

8 The tendon running to the third bone of the little finger, formed of the tendon 7, joined by a portion of the extenſor tendon of this finger.

9: 10 The ſame tendons which in the right hand are marked w β γ. τψ ω.

In the right hand.

a The adductor of the fourth metacarpal bone.

b. c. d. e The extenſor tendons of the fingers cut off at their roots, paſſing over their backs, and conjoined with the tendons and aponeuroſes of the interoſſei, lumbrical, &c. muſcles. f. f. f. f the ends of thoſe tendons inſerted into the bones of the ſecond order.

g The part whence the abductor of the little finger is cut off. h its tendon.

i The common tendon of the abductor and ſmall flexor of the little finger joined with the tendon b, and being increaſed by a portion received from thence, runs to the third bone of the little finger, k.

l The aponeuroſis which ariſing from the capſule of the joint of this finger with its metacarpal bone, belongs to the tendon b.

m n The interoſſeus of the little finger, ariſing from the metacarpal bone at m. n its tendon joined with the tendon of the fourth lumbricalis.

o The tendon common to the interoſſeus of the little finger and fourth lumbricalis, conjoined with the tendon b, and being increaſed by a portion received from thence, it runs to the third bone of the little finger.

q The common end of the tendons k. p, belonging to the third bone of the little finger.

r The aponeuroſis which joins the tendon b, coming in its upper part from the capſule of the joint of this finger with the metacarpus: below produced by the tendon n of the interoſſeus of the little finger, with which tendon is conjoined the tendon of the fourth lumbricalis.

s The head of the inner interoſſeus of the ring finger ariſing from the metacarpal bone of that finger. t the end of the other head cut off, ariſing from the metacarpal bone of the little finger. u the tendon that at v joins the tendon c, and being increaſed by a portion received from thence, runs to the third bone of the ring finger w.

x The aponeuroſis that joins the tendon c, coming in its upper part from the capſule of the joint of this finger with the metacarpus: below produced from the tendon u of the inner interoſſeus of the ring finger.

y z The outer interoſſeus of the ring finger, ariſing at y from the metacarpal bone of that finger. z its tendon, which joins the tendon of the third lumbricalis.

α The tendon common to the outer interoſſeus of the ring finger and third lumbricalis, joined with the tendon c, and being increaſed by a portion received from thence, runs to the third bone of the ring finger β.

γ The common end of the tendons w β, belonging to the third bone of the ring finger.

δ The aponeuroſis that joins the tendon c, coming in its upper part from the capſule of the joint of this finger with the metacarpus: below produced from the tendon z of the outer interoſſeus of the ring finger, with which tendon joins the tendon of the third lumbricalis.

ε The head of the inner interoſſeus of the middle finger ariſing from the metacarpal bone of that finger. ζ the end of its other head cut off, which ariſes from the metacarpal bone of the ring finger. η the tendon which ſoon after joins at θ with the tendon d, and being increaſed by a portion

portion received from thence, runs to the third bone of the middle finger ι.

κ The aponeurosis that joins the tendon d, coming in its upper part from the capsule of the joint of this finger with its metacarpus: below produced from the tendon η of the inner interosseus of this middle finger.

λ The head of the outer interosseus of the middle finger, arising from the metacarpal bone of that finger. μ the end of its other head cut off, that arises from the metacarpal bone of the index. ν the tendon that joins itself with the tendon of the second lumbricalis.

ξ The tendon common to the outer interosseus of the middle finger and second lumbricalis, which after joining the tendon d, is increased by a portion received from thence, and runs to the third bone of the middle finger ο.

π The common end of the tendons ι. ο, belonging to the third bone of the middle finger.

ρ The aponeurosis that joins the tendon d, coming in its upper part from the capsule of the joint of this middle finger with its metacarpus: below produced from the tendon ν of the outer interosseus of this middle finger, with which tendon is conjoined the tendon of the second lumbricalis.

σ ς The inner interosseus of the index, arising at σ from the metacarpal bone of the index. ς with the tendon e, and being increased by a portion received from thence, runs to the third bone of the index τ.

υ The aponeurosis that joins the tendon e, coming in its upper part from the capsule of the joint of this fore-finger with the metacarpus: in its lower part produced by the tendon ς of the inner interosseus of this fore-finger.

φ The tendon of the first lumbricalis which at χ joins with the tendon e, and being increased by a portion received from thence, runs to the third bone of the index ψ.

ω The common end in which unite the tendons τ. ψ, belonging to the third bone of the index.

1 The aponeurosis which being produced from the first lumbricalis, joins with a like aponeurosis from the abductor of the index, and therewith joins the tendon e.

2. 3 The outer interosseus of the index, arising at 2 from the metacarpal bone of the index. 3 the tendinous end inserted into the first bone of the index.

4. 5 The short flexor of the thumb. 5 the aponeurosis which it sends out and joins with the aponeurosis investing the capsule of the joint of the thumb with the metacarpus, and therewith joins the common end of the extensor tendons of the thumb.

6. 7 The adductor of the thumb, 7 the tendinous end inserted into its first bone.

THE
Eighth Anatomical Table
OF THE
HUMAN MUSCLES
EXPLAINED.

THIS is the fourth or laſt order of the muſcles on the back part of the body, with the Skeleton laid more naked; becauſe moſt of the outer muſcles, in the preceding figure, are here removed. This figure is a back view of that contained in the fourth table, but not wholly ſo; ſince neither the internal pterygoidei, external ſphincter of the anus, tranſverſales of the perinæum, nor interoſſei and tendons of the fingers in the right hand, are any of them repreſented here as in that figure: but we have repreſented the interoſſei, with the tendons in the left hand; ſince we expreſſed them in the third table, but omitted them in the fourth.

We have here taken away, from the head, that part of the buccinator which joins the orbicularis of the mouth, the internal pterygoideus, and mylohyoideus. From the neck, the cervical biventers, the deſcending cervicales, the poſterior ſcaleni; and from the left ſide, the ſpinalis of the neck. From the back and loins, the ſacrolumbales, with the longiſſimi dorſi and ſpinales dorſi: and from the left ſide of the ſpine, the ſemiſpinales dorſi; from the left ſide of the thorax, the ſhorter elevators of the ribs, except the firſt; the long elevators and outer intercoſtals. From the ſides, betwixt the thorax and hips are taken the tranſverſales of the abdomen, together with the inner plates of the aponeuroſes, common to the poſterior and lower ſerrati, with the internal obliqui of the abdomen. From the hips and nates the leſs glutei and internal obturators. From the thighs the graciles, ſemimembranoſi, bicipitals of the legs, origins of the gemelli and plantares. From the legs and feet, the poplitei,

poplitei, the long peronei, the long flexors of the great toes, and the long flexors of the ſmall toes. From the feet the ſhort extenſors of the toes, the fleſhy heads that join the long flexors of the toes in the ſoles of the feet, the interoſſei of the little toes, the tendons of the long flexors of the toes, with the lumbricales. From the ſhoulder-blades and arms, the larger teretes, the corachobrachiales, the internal brachiei, and the tricipital extenſors of the arms. From the fore-arms and hands, the longer and ſhorter external radiales, the profundi flexors, and the long flexors of the thumbs. Alſo from the left hand are removed the inner circular ligament, the ligament from the piſiform bone of the wriſt to the fourth metacarpal bone. The adductor of the fourth metacarpal bone of the hand, the lumbricales, the tendon of the extenſors of the little finger, with the tendon common to the ſmall flexor and abductor of the little finger, joined to its extenſor tendon; the tendon common to the firſt lumbricalis and extenſors of the index, belonging to the third bone of the index. From the right hand are taken all the muſcles, tendons, and aponeuroſes, except the adductor and ſhort flexor of the thumb.

a b c c. a b c c The leſs poſterior recti muſcles of the head. b the origin from the protuberance of the atlas which is inſtead of a ſpinal proceſs, from which origin it is outwardly tendinous. c c the end inſerted into the occipital bone. In the head, and neck.

d e f. d e f The larger poſterior recti muſcles of the head. e the origin from the ſpine of the epiſtrophæus. f the end inſerted into the occipital bone.

g. g h i i The upper obliqui of the head. h the origin from the tranſverſe proceſs of the epiſtrophæus. i i the end inſerted into the occipital bone near the appendix of the lambdoidal ſuture.

k l m. k l m The lower obliqui of the head. l the origin from the ſpine of the epiſtrophæus. m its extremity inſerted into the tranſverſe proceſs of the atlas.

n. n The fifth interſpinals of the neck. o. o the fourth. p. p the third. q. q the ſecond. r. r the firſt.

s t u v w x y z α β γ. s t u v w x y z α β γ The middle ſcaleni. t the origin from the firſt rib. u the head that joins it from the tranſverſe proceſs of the firſt vertebra of the neck, v that from the ſecond. w. x. y. z. α. β. γ the extremities inſerted into the tranſverſe proceſſes of the vertebræ of the neck, viz. w of the firſt, x of the ſecond, y of the third, z of the fourth. α of the fifth. β of the ſixth. γ of the ſeventh.

δ The poſterior intertranſverſales of the neck, the ſixth in order. ε the fifth, which is alſo expreſſed on the left ſide. ζ ζ the fourth. η the third, which is alſo in the right ſide. θ θ the ſecond. ι the firſt, which is alſo in the right ſide.

κ κ, &c. The ſhorter elevators of the ribs, κ. κ thoſe of the firſt ribs, λ of the ſecond, μ of the third, ν of the fourth, ξ of the fifth, ο of the ſixth, π of the ſeventh, ϱ of the eighth, σ of the ninth, ς of the tenth, τ of the eleventh, υ of the twelfth. φ the tendinous beginning of the twelfth. χ In the back.

the tendinous part of the inſertion, which is alſo repreſented in the eleventh, tenth, and ninth. ψ ω ω the parts of the ſixth ſhort elevator, ψ its origin from the tranſverſe proceſs of the eighth vertebra of the back, ω ω its end inſerted into the rib: from whence alſo the origin and inſertion of the reſt of theſe muſcles may be underſtood. Theſe muſcles are taken off from the left ſide, except the firſt of them.

A B C D E The longer elevator of the tenth rib: B its origin from the tranſverſe proceſs of the eighth vertebra of the back; C part of its origin which is outwardly tendinous: D the extremity inſerted into the tenth rib, of which E denotes the tendinous part. This explanation belongs alſo to thoſe longer elevators which follow. F the longer elevator of the tenth rib; G that of the twelfth rib. Thoſe of the left ſide are removed.

H. I. K. &c. The outer intercoſtals, H the firſt, I the ſecond, K the third, L the fourth, M the fifth, N the ſixth, O the ſeventh, P the eighth, Q the ninth, R the tenth, S the eleventh. Thoſe of the left ſide are taken off.

T. U. V. W, &c. Denote the internal intercoſtals, T the firſt, U the ſecond, V the third, W the fourth, X the fifth, Y the ſixth, Z the ſeventh, a the eighth, æ. æ the ninth. b the tenth, c. c the eleventh. d d the origin of the laſt from the rib next above; which holds true likewiſe in the firſt, ſecond, third, ſeventh, eighth, ninth, and tenth.

e e, &c. Denote the pleura uncovered.

f. f. g. g, &c. The intertranſverſales of the back, f. f the firſt (reckoning upwards), g. g the ſecond, h. h the third, i. i the fourth, k. k the fifth, l. l the ſixth, m. m the ſeventh, n. n the eighth, o. o the ninth.

p q r s t u v w x y z 1 The ſemiſpinalis of the back. q. r. s. t four of the heads ariſing tendinous from the tranſverſe proceſs q, of the third vertebra of the back, counting from the loins, r that of the fourth, s of the fifth, t of the ſixth. u. v. w. x. y. z. 1 the ſeven tails turning into tendons, and belonging to the ſpine of the eighth vertebra of the back u, to the ninth v, to the tenth w, to the eleventh x, to the twelfth y, to the firſt of the neck z, to the ſecond 1. The left is taken off.

In the back and neck.

2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13 The ſpinalis muſcle of the neck. 3. 4. 5. 6. 7. 8 the ſix heads by which it ariſes tendinous; 3 the origin from the tranſverſe proceſs of the ſeventh vertebra of the back, from the loins, 4 from that of the eighth, 5 of the ninth, 6 of the tenth, 7 of the eleventh, 8 of the twelfth. 9. 10. 11. 12. 13 the tails inſerted into the ſpinal proceſs of the ſecond vertebra of the neck 9, counting from the back, 10 to that of the third vertebra, 11 to the fourth, 12 to the fifth, 13 to the ſixth. The left ſpinalis muſcle of the neck is here taken away.

14. 14. 15. 16. 17. 18. 19 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62: 14. 14. 15. 16. 27. 28. 29. 30. 31. 32. 33 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 61. 62. The multifidi muſcles of the ſpine. 15 the tendinous head which ariſes from the oblique, deſcending proceſs of the fourth vertebra of the neck: 16 a like head from the third vertebra, 17 that from the ſecond: 18 that

18 that from the tranſverſe proceſs of the twelfth or uppermoſt vertebra of the back: 19 that from the eleventh: 20 that from the tenth: 21 from the ninth: 22 from the eighth: 23 from the ſeventh: 24 from the ſixth: 25 from the fifth: 26 from the fourth: 27 from the third: 28 from the ſecond: 29 the tendinous excurſion of the head which ariſes from the tranſverſe proceſs of the firſt vertebra of the back: 30 the like ariſing from the oblique aſcending proceſs of the fifth or uppermoſt vertebra of the loins: 31 that from the oblique aſcending proceſs of the fourth lumbal vertebra: 32 that from the oblique aſcending proceſs of the third lumbal vertebra: 33 that from the ſecond: 34 that from the firſt: 35 that from the firſt of the os ſacrum: 36. 37 the head which ariſes partly from the ligament (36) coming from the protuberance, which the os ſacrum forms at the outer edge of its ſecond and third opening, and continued down to the lower part of that bone; and partly from that protuberance itſelf 37: 38 the head which ariſes all the way from the third ſpine of the os ſacrum, to the tubercle of that bone, which is formed by the concretion of the oblique deſcending proceſs of its fourth vertebra, with the oblique aſcending proceſs of the fifth, and from that tubercle itſelf. 39. 40. 41, &c. the tendinous ends inſerted into the ſpines of the vertebræ; 39 that to the firſt or lowermoſt of the loins, 40 to that of the ſecond, 41 of the third, 42 of the fourth, 43 of the fifth, 44 of the firſt of the back, 45 of the ſecond, 46 of the third, 47 of the fourth, 48 of the fifth, 49 of the ſixth, 50 of the ſeventh, 51 of the eighth, 52 of the ninth, 53 of the tenth, 54 of the eleventh, 55 of the twelfth, 56 of the firſt of the neck, 57 of the ſecond, 58 of the third, 59 of the fourth, 60 of the fifth, 61 of the ſixth, and 62 into the oblique deſcending proceſs of the ſaid ſixth vertebra of the neck.

Γ. Γ: Δ. Δ The interſpinales muſcles of the back. Γ. Γ the ſecond, Δ. Δ the firſt.

Θ. Θ: Λ. Λ: Ξ. Ξ: Π Π: Σ. Σ: Φ. Φ The interſpinales of the loins. Θ Θ the ſixth: Λ Λ the fifth: Ξ Ξ the fourth, Π Π the third, Σ Σ the ſecond, Φ Φ the firſt.

Ψ. Ψ: Ω. Ω: α. α: β. β: γ. γ The intertranſverſales muſcles of the loins. Ψ Ψ the fifth, Ω Ω the fourth, α α the third, β β the ſecond, γ γ the firſt. The manner of their origin from the lower tranſverſe proceſs, and inſertion into the upper is here apparent. In the loins, hips, and lower extremities.

δ ε η θ ι κ λ. δ ε η θ ι κ λ The quadrati of the loins. ε the origin from the ligament ζ, that is extended from the tranſverſe proceſs of the firſt lumbal vertebra to the os ilium. η. θ. ι κ tendinous portions belonging to the tranſverſe proceſſes of the lumbal vertebræ, η to the ſecond, θ to the third, ι to the fourth, κ to the fifth, λ the extremity belonging to the twelfth rib.

μ Part of the diaphragm.

ν. ν The great pſoæ, or lumbal muſcles of the thighs.

ξ ο. ξ ο The internal iliacal muſcles.

π. π The tendons common to the great pſoæ and internal iliacs, inſerted into the leſs trochanters.

ϱ ϱ σ τ. ϱ ϱ σ τ The external obturators. σ part of the origin from the inner margin of the great foramen or hole in the os innominatum. τ the tendinous end.

ϛ υ φ χ ψ ω A A A B C D. ϛ υ φ χ ψ ω A A A B C D The great adductors of the thighs, in the upper part of which, near the inner ſide, are impreſſed the marks of the largeſt glutei, ſee Tab. V: and of the ſemitendinoſi, ſee Tab. VI. υ all that part which is concave from the impreſſion of the ſemimembranoſus. φ χ the origin from the back of the tubercle of the iſchium by the tendinous part φ, χ the tendon which runs thro' the muſcular fleſh ψ. ω the part that comes from the fore ſide of the pelvis, where it ariſes along the whole height of the os pubis. A A A the broad end inſerted into the thigh bone. B C D the lower end, which forming the tendon C, is inſerted into the inner condyle of the thigh bone at D.

E F G H H I I K L. E F G H H I I K L The tibiales poſtici. F the origin ſpringing from the tibia, G the origin from the fibula. H H its origination from the tibia, from whence it comes outwardly tendinous. I I the part that ariſes outwardly tendinous from the fibula. K L the tendon, ariſing from the fleſhy part at K, and paſſing behind the inner ancle at L.

M N O P Q R. M N O P Q R The ſhort peronei. N the origin from the fibula. O P Q R the tendon, ariſing from the fleſhy part at O, becoming thicker and broader at P, where it bends round the outer ancle, and at Q paſſes thro' the ſecond ligament near the upper part of the protuberance of the calcaneum; it is inſerted into the fifth metatarſal bone at R.

S. S The heads of the ſecond interoſſei of the little toes, which ariſe from the metatarſal bones of thoſe toes.

T The head of the ſecond interoſſeus of the third toe, which ariſes from the metatarſal bone of that toe.

V The head of the ſecond interoſſeus of the ſecond toe, ariſing from the metatarſal bone of that toe.

W X The two tails of the ſhort flexor of the great toe, inſerted into the ſeſamoidal bones.

Y The ſecond interoſſeus of the fourth toe.

Z The tranſverſalis of the foot.

Γ The adductor of the great toe.

In the ſhoulders, arms, and hands.

Δ. Δ The ſubſcapulares.

Θ Λ Ξ Ξ Π Π. Θ Λ Ξ Ξ Π Π Σ The ſhort ſupinators. Λ the tendon ariſing from the leſs condyle. Ξ Ξ Π Π the part which is outwardly tendinous, ariſing from the capſule of the joint of the elbow at Ξ Ξ, and from the ulna at Π Π. Σ the end inſerted into the radius.

Φ Φ The ſquare pronators.

Ψ Ω a b c d e. Ψ f The ſhort flexors of the thumbs. Ω the origin from the inner protuberance of the larger multangular bone, and from the leſs multangular bone at a. b the anterior or outer tail, inſerted by the tendinous end c, into the ſeſamoidal bone of the thumb, which is fartheſt from the index. d the poſterior or inner tail, inſerted by the tendinous end e, into the ſeſamoidal bone of the thumb, which is neareſt the index, and likewiſe into the firſt bone of the thumb itſelf. f the aponeuroſis which goes

from

from the poſterior tail, and joins itſelf to the common end of the tendons of the extenſors of the thumb.

g g h. g h The adductors of the thumbs. h the tendinous end inſerted into the firſt bone of the thumb.

i The poſterior or inner interoſſeus of the index.

Near k appears the outer interoſſeus of the middle finger.

l l The poſterior or inner interoſſeus of the middle finger.

m The outer interoſſeus of the ring finger.

n n The inner interoſſeus of the ring finger.

o The interoſſeus of the little finger.

p The tendon of the inner interoſſeus of the index, which being increaſed by a portion received from the tendon of the extenſor of the index, runs to the third bone of the index, joining in its common end with the tendon of the firſt lumbricalis, and is increaſed likewiſe by a portion from the extenſors of the index.

q The tendon common to the outer interoſſeus of the ring finger and third lumbricalis, which being increaſed by a portion received from the tendon of the common extenſor, that belongs to this finger, runs to the third bone of this ſaid finger.

r The tendon of the inner interoſſeus of the ring finger, which being increaſed by a portion from the common extenſor to this finger, runs to the third bone of the ſaid ring finger, and joins the tendon q in the common extremity.

THE

Ninth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

AS in the firſt Table, ſo in this, we exhibit the primary or outermoſt order of the muſcles, after the common integuments and tendinous coverings have been removed; to theſe we have added ſome of the ligaments belonging to thoſe muſcles, and ſome parts of the third Skeleton, which makes the baſis of the preſent figure; with ſome other parts which are not covered with muſcles, as of the noſe, ear, and genitals.

In the head, neck, and trunk.

a b c. a b c d. e. f The epicranius. a b the occipitalis. a its tendinous beginning. b the fleſhy part. c d the aponeuroſis betwixt the occipital and frontal muſcles; thro' which at d the temporal muſcle appears protuberant, e the membranous part by which the occipital muſcles and their aponeuroſes are joined to each other; ariſing above the origin of the cucullares from the occipital bone. f the frontalis.

g h The elevator of the outer ear. g the tendinous beginning, by which it goes off from the epicranius. h the fleſhy part.

i The anterior muſcle of the outer ear.

k. l. m The three retractive muſcles of the outer ear.

n The greater muſcle of the helix.

o The leſs muſcle of the helix.

p Trajicus.

q Antitrajicus.

r s t t The orbicularis of the eye-lids. r the part which ſurrounds the edge of the orbit of the eye. s a part which comes from the corrugator

corrugator of the eyebrows. t t the part which is ſpread over the eyelids.

u The compreſſor of the noſe.

v The naſalis of the upper lip.

w x w x The orbicularis of the mouth. x the part which is in the red margin of the lip.

y z The greater zygomaticus. z its origin from the os jugale.

α β The depreſſor of the corner of the mouth. β its origin from the lower jaw.

γ The buccinator muſcle.

δ ε ζ η θ The maſſeter. δ ε the anterior and outer part; ε its origin from the os jugale, from whence outwardly it is for a good way tendinous. ζ η θ the back part which is not covered by the former; η θ its origin from the os jugale at η, and from the jugal proceſs of the temporal bone at θ.

ι κ The internal pterygoideus inſerted into the mandible at κ.

λ The Stylohyoideus.

Betwixt κ and λ is the ſtylogloſſus. See Tab. X. Fig. 2. m.

Immediately below the ſtylogloſſus is the baſiogloſſus. See Tab. X. Fig. 1. k. and Fig. 2. o.

μ ν ν ξ ο π The latiſſimus colli or quadratus genæ. ν. ν. &c. the muſcular portions which join it on the ſides of the neck in ſome people. ξ the diſperſed fibres by which it ends and diſappears in the upper part of the cheek. ο the faſciculus or portion which is ſtretched thro' the fore part of the depreſſor of the angle of the mouth, towards the ſaid angle. π the lower jaw protuberant under the platyſmamyoides or ſquare muſcle of the neck and cheek.

ρ σ The ſternomaſtoideus and cleidomaſtoideus joined together in one. σ the tendinous end.

τ The biventer of the neck, inſerted by its tendinous end into the occipital bone.

υ The ſplenius of the head.

φ The ſplenius of the neck.

χ The middle ſcalenus

ψ The elevator of the ſcapula.

ω ω Γ Δ ω Γ Θ Λ Λ Ξ The cucullares. Γ Δ the tendinous origin. Γ part of it ariſing from the occipital bone. Θ the broadeſt part of its tendinous origin about the bottom of the neck and top of the back. Λ Λ the tendinous part of its end which is inſerted into the ſpine and upper proceſs of the ſcapula, and into the next adjacent part of the clavicle. Ξ the tendinous part of its end, by which it is inſerted into the ſpine of the ſcapula not far from its baſis.

Π Σ Π The infraſpinati. Σ the origin from the baſis of the ſcapula.

Φ Teres minor.

Ψ Teres major.

Ω. Ω A B C D E F The latiſſimi dorſi or broadeſt muſcles of the back. Ω the fleſhy part. A the broad tendon by which it begins. B its adheſion to the gluteus magnus. C its origin from the ſpine of the os ilium.

D. E. F the heads which ariſe from the ribs: D that from the eleventh rib. E that from the tenth, F from the ninth.

G The upper ſerratus anticus.

H I The pectoralis. I the portion which joins it from the aponeuroſes of the external oblique muſcle of the abdomen.

K L M N O P Q R &c. The lower or great ſerratus. K the head which ariſes from the third rib; L that from the fourth, M from the fifth, N from the ſixth, O from the ſeventh, P from the eighth. R R, &c. the origin of the heads themſelves from the ribs.

S T U V W X Y Z a a a a a b b b b b b c c d d d d e f f g h h h h i i i k The external obliquus of the abdomen. S the fleſhy part. T U V W X Y Z the ſerrated heads, of which T ariſes from the fifth rib, U from the ſixth, V from the ſeventh, W from the eighth, X from the ninth, Y from the tenth, Z from the eleventh. a, &c. the tendinous part of each head at the origin. b b, &c. the origin of the heads themſelves from the ribs. c c the inſertion of the fleſhy part into the ſpine of the ilium. d d d d e f f g h h h h i i i k the aponeuroſis or tendinous part, inſerted into the ſpine of the ilium at e, at f f the fleſh of the internal obliquus appears protuberant under it, under the ſame tendon, and that of the internal obliquus at g, the fleſh of the tranſverſalis appears protuberant; and at h h h h the fleſh of the rectus: at i i i appear the tendinous lines of the rectus thro' the ſaid aponeuroſes at k, under the ſame appears the pyramidalis.

In the left lower extremity.

l The cremaſter muſcle of the teſticle.

m The long adductor of the thigh.

n The pectineus.

o The great pſoas or lumbal muſcle of the left thigh.

p The ſartorius.

q r s The extenſor of the tendinous covering of the thigh. r its origin from the ſpine of the ilium. s its extremity from whence the tendinous part is cut off by which it joins the aponeuroſis or vagina of the thigh.

t u u v The middle gluteus, u u its origin from the os ilium. v the tendon.

w x y The gluteus magnus, ariſing at x from the ſpine of the ilium, and cohering with the latiſſimus dorſi. y the tendon.

z The ſeminervoſus or ſemitendinoſus.

α β β γ δ ε ζ The biceps muſcle of the leg. α its longer head. β β its ſhorter head. γ δ ε ζ the tendon, ariſing firſt at γ from the fleſh of the longer head, afterwards increaſed by the joining of the ſhorter head δ, and inſerted by its principal end ε, into the upper head of the fibula, but ſends off the ſmall portion ζ, which belongs to the tibia.

η θ ι κ The external vaſtus. θ the tendinous ſurface. ι the tendon inſerted into the patella at κ.

λ μ ν ξ ο The rectus of the leg. μ the tendinous part of its beginning. ν the tendon, inſerted at ξ into the patella. ο the aponeuroſis which runs from the tendon of the rectus over the fore part of the patella, and afterwards joins itſelf to the fore part of the ligament, which belongs to the tibia from the patella.

π ρ The internal vaſtus. ρ the tendon.

σ τ υ The ligament belonging to the tibia from the patella. τ the part where it ariſes from the patella. υ that whole part which is inſerted behind the tibia.

φ χ ψ The outer head of the gemellus or gaſterocknemius. χ the tendinous ſurface. ψ the tendon.

ω Γ Δ The ſoleus. Γ its origin from the upper head of the fibula. Δ the tendinous ſurface.

Θ Λ Ξ The tendon of Achillis. Λ the inner part. Ξ its inſertion into the calcaneum.

Π The tendon of the plantaris.

Σ Φ Ψ Ω Ω Ω The long peroneus. Φ its origin from the head of the fibula. Ψ Ω Ω Ω the tendon ariſing from the fleſh at Ψ.

A The ligament proper to the long peroneus.

B B C C D D E The ſhort peroneus. C C the origin of the tendon from the fleſh. D D the tendon, inſerted at E into the fifth bone of the metatarſus.

F The ligament proper to the ſhort peroneus.

G H I K L M N O P Q R The long extenſor of the toes with the third peroneus. G the common fleſh of the extenſor and peroneus. H its origin from the tibia. I the third peroneus. K L M its tendon, ariſing from the fleſh at K, and inſerted at M into the metatarſal bone of the little toe. N the tendon of the long extenſor of the toes, which ſplits itſelf into four tendons O. P. Q. R running over the back or inſtep of the foot.

S S S T The tendon of the proper extenſor of the great toe, inſerted at T into the laſt bone of the great toe.

U V W W The tibialis anticus. V its origin from the tibia. W W its tendon.

X Y Z The ligament by which the tendons are covered and confined at the bottom of the leg, and upon the back of the foot. Y its upper horn. Z the lower horn.

a a a b c d e The ſhort extenſor of the toes. b. c. d. e its tendons. b that belonging to the great toe, c that to the firſt of the ſmall toes, d that to the ſecond. e to the third.

f g h i k l Denote a tendon common to the long and ſhort extenſor of the toes, f the part produced from the longus, g the part from the brevis: and betwixt them is a mark of diviſion. h the end inſerted into the bone of the ſecond phalanx or order. i part of the common tendon running to the third bone. k the tendon running from one ſide to the third bone, which comes from the tendon of the ſhort extenſor. l the common end of the two portions belonging to the third bone into which it is inſerted.

m The aponeuroſis which comes from this ſide to the tendon of the ſhort extenſor of the toes. The like is alſo in the other toes: but in the little toe it joins the tendon of the long extenſor: in the great toe it joins the tendon of its proper extenſor.

n The firſt interoſſeus of the ſecond toe.

o The thicker head of the ſecond interoſſeus of the ſecond toe.

p The larger head of the ſecond interoſſeus of the third toe.

q The larger head of the ſecond interoſſeus of the fourth toe.

r s t u v The abductor of the little toe in the part s, covered with an aponeurosis. t its origin from the calcaneum. u part of the aponeurosis by which it is covered, inserted into the metatarsal bone of the little toe. v the tendon of the abductor inserted into the first bone of the little toe.

w x The short flexor of the little toe. w the part which is inserted into the metatarsal bone of the little toe. x the part which by its tendinous end is inserted into the first bone of the little toe.

y. z The tendons of the long and short flexor of the toes. Which are also to be seen in the next toe.

In the right lower extremity.

A B C The rectus muscle of the leg. B its tendon inserted into the patella. C the aponeurosis running from the tendon before the patella, and joining itself to the fore part of the ligament that belongs to the tibia from the patella.

D E F G The ligament belonging to the tibia from the patella. E the part where it arises from below the patella, and inserted into the tibia all below the part F. G its inner part.

H I The internal vastus. I its tendinous end inserted into the side of the patella.

K L M The sartorius. L its tendon, inserted into the tibia at M.

N O The gracilis. O its tendon.

P Q R S The semimembranosus. Q R the tendon, arising from the flesh at Q. S its anterior aponeurosis inserted into the inner margin of the tibia.

T U The semitendinosus. U the tendon.

V W X The inner head of the gemellus or gasterocknemius. W the tendinous surface. X the tendon which joins the outer part of the tendon of the soleus. Y the tendon of Achillis, inserted into the calcaneum at Z.

Γ Δ Θ Θ The soleus. Δ the tendinous surface. Θ Θ its origin from the tibia.

Λ Ξ The tendon of the plantaris, inserted into the calcaneum at Ξ.

Π Σ The long flexor of the great toe. Σ the tendon.

Φ The ligament which retains the tendon of the long flexor of the great toe.

Ψ Ω Ω α The long flexor of the toes. Ω Ω its origin from the tibia. α the tendon arising from its flesh.

β β γ The tendon of the tibialis posticus. γ its end inserted into the inner tubercle of the navicular bone.

δ ε ε The ligament that covers the tendon of the long flexor of the toes, and of the tibialis posticus, fastened to the inner ancle at ε ε.

ζ The ligament which retains the tendon of the tibialis posticus.

η θ θ θ The tibialis anticus. θ θ θ the tendon.

ι The upper horn of the ligament fix'd to the tibia, by which are confined the tendons at the bottom of the leg, and on the back of the foot. κ the lower horn of the same ligament.

λ λ μ The tendon of the extensor proper to the great toe, inserted at μ into the last bone of the great toe.

ν A branch of the tendon of the proper extensor of the great toe, inserted into the first bone of that toe, found in some bodies.

ξ An aponeurosis joining the tendon of the proper extensor of the great toe.

ο The common tendons of the extensors upon these toes.

π π The

π π The two horns of the ligament by which the tendon of the long flexor of the great toe is confined in this place.

ρ The tendon of the long flexor of the great toe running under that toe.

σ ς ϛ τ The abductor of the great toe. ς its origin from the calcaneum. ϛ the tendon, inſerted at τ into the firſt bone of the great toe.

υ υ φ The ſhort flexor of the great toe, adjoining itſelf to the tendon of the abductor at φ.

χ ψ The ſhort flexor of the toes. ψ its origin from the calcaneum.

ω The fleſhy head that joins the long flexor of the toes in the ſole of the foot, ariſing from the calcaneum.

A B B C D E F G H I K L M N O The deltoides. A B B the ſecond and poſterior of the firſt order of portions which make up this muſcle, ariſing at B B from the ſpine and upper proceſs of the ſcapula. C D the poſterior portion of the ſecond order, ariſing at D from the upper proceſs. E F the fourth portion of the firſt order, ariſing at F from the hollow and arch of the upper proceſs. G H the middle portion of the ſecond order, ariſing at H from the upper proceſs. I K the third portion of the firſt order, ariſing at K from the upper proceſs. L M the anterior portion of the ſecond order, ariſing at M from the upper proceſs. N O the firſt anterior portion of the firſt order; O its origin from the upper proceſs. In the left arm and hand.

P Q R The biceps. Q the tendon. R the aponeuroſis cut off.

S The internal brachialis.

T U V W X The triceps extenſor of the cubit. T that part of it called the longus. U the brevis. V the tendon, inſerted at W into the elbow. X the thinner point of the tendon inſerted into the fore part of the elbow and next adjacent ſpine of the ulna.

Y The internal ulnaris.

Z a The ſupinator longus. a the tendon.

b The pronator teres.

c d The radialis internus. d the tendon.

e e The ſublimis flexor of the fingers.

f f The long flexor of the thumb.

g The tendon of the ſecond longer radialis externus.

h i i i k The longer radialis externus. i i i k the tendon, inſerted at k into the metacarpal bone of the index.

l m m m The ſhorter radialis externus. m m m the tendon.

n o The ulnaris externus. o the tendon.

p q r s t The common extenſor of the fingers. q the tendon belonging to the index. r the tendon to the middle finger: which two tendons near the fingers are conjoined by the portion s, coming from the tendon of the middle finger to the tendon of the index. t the tendon belonging to the ring finger.

u The indicator tendon.

v w The extenſor proper to the little finger. w the tendon.

x y y z z The long abductor of the thumb. y y the tendon of its upper portion, which is ſplit at the end, of which one part belongs to the ſhort abductor

abductor of the thumb, the other to the metacarpal bone of the thumb.
z z the tendon of its lower portion.

α β The leſs extenſor of the thumb. β the tendon.

γ γ The tendon of the larger extenſor of the thumb.

δ ε The tendon common to the larger and leſs extenſor of the thumb, belonging to the laſt bone of the thumb ε.

ζ ζ The outer circular ligament of the wriſt.

η The ligament by which are confined the tendons of the long abductor and leſs extenſor of the thumb.

θ The inner ligament of the wriſt.

ι κ The ſhort abductor of the thumb. κ the aponeuroſis which it joins to the common tendon of the extenſors of the thumb.

λ The opponent muſcle of the thumb, inſerted into the outer edge of the metacarpal bone of the thumb.

μ The aponeuroſis which joins the tendon of the larger extenſor of the thumb, ariſing partly from the capſule of the joint of the thumb with its metacarpal bone, and in part from the ſhort flexor of the thumb.

ν ξ The adductor of the thumb, inſerted by its tendinous end ξ into the firſt bone of the thumb.

ο The outer interoſſeus muſcle of the index, ariſing from its metacarpal bone.

π The abductor of the index.

ϱ The firſt lumbricalis.

σ The aponeuroſis which proceeds partly from the abductor of the index, and in part from its lumbricalis, and joins the tendon of the extenſors of the index.

ς ς The tendon common to the extenſors of the index. ς its end inſerted into the ſecond bone of the index.

τ The tendon of the firſt lumbricalis, which being increaſed by a portion received from the common tendon of the extenſors, runs to the third bone of the index υ.

φ The tendon of the ſecond interoſſeus of the index, together with a portion which it receives from the common tendon of the extenſors, running to the third bone of the index.

χ The common end of the tendons υ and φ belonging to the third bone of the index, into which it is inſerted.

ψ The tendon common to the ſecond lumbricalis and outer interoſſeus of the middle finger: which tendon being increaſed by a portion received from the extenſor tendon of the middle finger, runs to the third bone of that finger, joining in its common end with a like tendon from the other finger of this ſide, and is inſerted into the third bone of the ſaid finger.

ω The tendon common to the fourth lumbricalis with the outer interoſſeus of the little finger: which tendon being increaſed by a portion received from the extenſor tendon of this finger, runs to its third bone.

Along the fingers within the hand run the tendons of the ſublimis and profundus flexors, which tendons are retained or tied down by their ligaments, as may be better ſeen in Tab. I.

α β γ δ ε The triceps extenſor of the elbow or fore-arm. α the part call'd extenſor longus. β the part call'd brachialis externus. γ the tendon of the triceps, inſerted into the olecranum or elbow, ε the thin tendon ariſing from the ſurface of the external brachialis, and belonging to the upper part of the poſterior or larger condyle of the humerus. In the right arm.

ζ The brachialis internus.

η θ ι The biceps flexor of the fore-arm. θ its aponeuroſis cut off. Near ι appears the tendon.

κ The ſupinator longus.

λ The pronator teres.

μ The radialis internus.

ν ξ The long palmaris. Immediately below ξ appears the beginning of its tendon.

ο The ſublimis perforatus flexor of the fingers.

π ϱ σ The ulnaris internus. ϱ one of its origins from the poſterior condyle of the humerus. σ its other origin from the elbow. In the right hand.

τ The ulnaris externus.

a The ſhort abductor of the thumb. b the aponeuroſis which going off from its tendon, joins itſelf to the common tendon of the extenſors of the thumb.

c Part of the ſhort flexor of the thumb, which may be reckoned as a ſecond ſhort abductor of it, inſerted by its tendinous end into the firſt bone of the thumb.

d Part of the ſhort flexor of the thumb, inſerted into the ſeſamoidal bone neareſt the index, and into the next part of the firſt bone of the thumb.

e The abductor of the thumb.

f f The tendon of the long flexor of the thumb.

g Two ligaments which confine the tendon of the long flexor of the thumb, marked μ in the left hand of Tab. V.

h The palmaris brevis quadratus.

i The ſhort flexor of the little finger.

k The abductor of the little finger.

l The abductor of the fourth metacarpal bone of the hand, inſerted into that bone.

Finally, we have omitted to fix letters on the tendons and aponeuroſes ſtretched over the back of the hand and fingers, becauſe they may be more eaſily known from the fifth table.

THE

THE

Tenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

FIGURE I.

COMES next after that of the head and neck in the ninth table; and repreſents the muſcles ſeated before the vertebræ of the neck, below the head, with the os hyoides, larynx, and part of the pharynx; to ſhew which the latiſſimus colli and maſtoideus are here taken off. No other muſcles are here figured either in the head or vertebræ; not even thoſe which adhere to the fore part of the vertebræ behind the pharynx, as the rectus internus, major capitis, and longus colli, left by theſe, the other muſcles ſhould be obſcured.

a The pterygoideus externus.

b c Pterygoideus internus, c its inſertion into the lower jaw.

d The mylohyoideus, the end of which, inſerted into the baſis of the os hyoides, appears immediately below the tendon of the digaſtric, i of the lower jaw.

e f The ſtylohyoideus inſerted by its tendon f into the baſis of the os hyoides.

g h i i The digaſtric of the lower jaw. g the firſt venter, h its ſecond venter, i i the middle tendon.

k l The baſiogloſſus. l part of its origin from the horn of the os hyoides: and immediately above k appears part of the ſtylogloſſus, as in Fig. 2. m.

m The ceratogloſſus ariſing from the horn of the os hyoides.

n o The os hyoides. n the horn, o its baſis.

p The common end of the ſtylopharyngeus and palatopharyngeus. Part of the end of which alſo lies betwixt the ceratogloſſus and heads of the middle conſtrictor of the pharynx: for which conſult the Figures following.

Near p is a ligament belonging to the upper proceſs of the thyroide cartilage from the horn of the hyoidal bone. See Fig. 4. x.

q r s t The hyothyroideus. r s its origin, from the horn r of the hyoidal bone, and from its baſis s. t its thyroidal inſertion.

u The thyroide cartilage.

v w x y The cricothyroideus. v it fore part inſerted into the thyroide cartilage. w x y its back part, of which a portion at x joins the lower conſtrictor of the pharynx. y its thyroidal inſertion.

z The cricoide cartilage.

α The gula cut off.

β γ The lower conſtrictor of the pharynx. γ its origin from the cricoide cartilage.

δ ε ζ The middle conſtrictor of the pharynx. ε the head which ariſes from the graniform bone of the os hyoides. ζ the head which ariſes from the end of the horn of the os hyoides.

η The upper conſtrictor of the pharynx.

FIGURE II.

In which the outer muſcles of the firſt figure and left ſide of the lower jaw are taken off, repreſents the next order of muſcles, with the os hyoides, larynx, gula, and tongue. But with the left ſide of the lower jaw are removed the pterygoideus, externus and internus, the mylohyoideus, ſtylohyoideus, biventer maxillæ, hyothyroideus, and cricothyroideus.

a The upper jaw-bone.

b The outer wing of the pterygoidal proceſs.

c d Part of the palate bone, which being inſerted betwixt the pterygoidal proceſs and upper jaw, connects them together. c part of it belonging to the cavity of the pterygoidal proceſs.

e e The inner wing of the pterygoidal proceſs, in whoſe bottom is the hamulus or hooked proceſs.

f The circumflex muſcle of the moveable palate.

g The elevator of the moving palate.

h The tongue.

Near i is the conſtrictor of the iſthmus of the fauces. See Fig. 4. l.

k l m The ſtylogloſſus. l its continuation to the ceratogloſſus. m its courſe from thence as it runs in the direction of the tongue, and is inſerted into it.

n The ceratogloſſus, ariſing from the horn of the os hyoides.

o The baſiogloſſus, whoſe origin appears from the horn of the os hyoides.

p The lingualis.

q The geniogloſſus, ariſing from the lower jaw.

r s Geniohyoideus. s its tendinous origin from the lower jaw. The reſt of it is inſerted into the baſis and horn of the os hyoides: alſo part of its end runs behind the baſiogloſſus.

t The lower jaw cut in two.

u v The os hyoides. u the baſis. v the horn.

Near the lower part of the end of the horn of the os hyoides is part of the ligament which goes from thence to the upper proceſs of the thyroide cartilage. See Fig. 4. x.

w The ſtylopharyngeus.

x The common end of the ſtylopharyngeus and palatopharyngeus, the extremity of which appears betwixt the ceratogloſſus and two heads of the middle conſtrictor of the pharynx. See Fig. 4. g.

y y z The upper conſtrictor of the pharynx. z a portion of it which ariſes partly from the lower jaw, and is in part continued to the buccinator; from both which it is cut off.

α β γ The middle conſtrictor of the pharynx. β the head which ariſes from from the little grain-like bone of the os hyoides. γ the head which ariſes from the end of the horn of the os hyoides.

δ ε ζ η θ The lower conſtrictor of the pharynx. ε ζ η the head by which it ariſes from the thyroide cartilage, from ε to ζ, ſpringing from the ſide of of the ſaid cartilage, the part ζ from the lower edge thereof, and the part η from the lower proceſs. θ the head by which it ariſes from the annular cartilage.

ι κ The thyroide cartilage. κ the protuberance, from whence ariſes the middle conſtrictor of the pharynx.

λ A ligament tying the annular to the thyroide cartilage.

μ The annular cartilage.

ν The gula cut off.

FIGURE III.

Repreſents the next order of muſcles after thoſe which lie outermoſt in the preceding figure are taken off; namely, the ſtyloglo ſſus, ceratoglo ſſus, baſioglo ſſus, geniohyoideus, and ſtylopharyngeus.

The upper jaw-bone, with the proceſſus pterygoideus, its wings, hook, and excavations, as alſo the palate-bone with the lower jaw divided, have neither of them any letters affixed in the preſent, or two next ſucceeding figures; becauſe theſe may be known from the ſecond figure, and therefore there is no reaſon for loading theſe laſt figures like the former.

a The circumflex muſcle of the moveable palate.

b The elevator of the ſoft or moveable palate.

Near c is part of the conſtrictor of the iſthmus of the fauces. See Fig. 4. l.

d The tongue.

e f The ſtyloglo ſſus, cut off at e, but in the part f, running according to the length of the tongue, and cohering with it.

g The ceratoglo ſſus and baſioglo ſſus cut off.

h The lingualis.

i k l m n o The geniogloſſus k its origin from the lower jaw. At l the thin faſciculi of fibres are incurvated by the ſide of the pharynx; ſome of which fibres at m join the ceratogloſſus and ſtyloglo ſſus; others at n join the upper conſtrictor of the pharynx, while others at o vaniſh in the membrane of the pharynx.

p q r s t u The upper conſtrictor of the pharynx. q the upper part which goes out of the circumflex muſcle of the moveable palate. r the part which ariſes from the internal plate of the pterygoide proceſs, and from the hook.

s the

s the part which is cut off from the buccinator. t the part which ariſes from the lower jaw. u the part going from the tongue: below which the part n joins it from the fibres of the geniogloſſus, which it incurvates thro' the ſide of the pharynx.

v Denotes a ſpace betwixt the upper and middle conſtrictor, through which the ſtylopharyngeus is detached, paſſing under the middle conſtrictor.

w x y The middle conſtrictor of the pharynx. x one of the heads ariſing from the ſmall grain-like bone of the os hyoides: y the other head ariſing from the end of the horn of the os hyoides.

z α β γ δ The lower conſtrictor of the pharynx. α β γ the head which ariſes from the thyroide cartilage: α and β denote its origin from the ſide of the thyroide cartilage, β from the lower edge of the ſaid cartilage, and γ from the lower proceſs. δ the head ariſing from the annular cartilage.

ε The common end of the ſtylopharyngeus and palatopharyngeus: part of which alſo appears betwixt the heads of the middle conſtrictor of the pharynx x. y: ſee Fig. 4. g.

ζ η θ The os hyoides. ζ the baſis. η the grain-like little bone, θ the horn.

A little above η is a ſmall part of the chondrogloſſus muſcle. See Fig. 4. t.

A little below ι is a ligament which belongs to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides. See Fig. 4. x.

κ The thyroide cartilage, whoſe lower proceſs is near λ. See α.

μ The ligament by which the thyroide and cricoide cartilage are tied one to the other.

ν The cricoide cartilage.

ξ The gula cut off.

FIGURE IV.

The outermoſt muſcles of the third figure being removed, we here exhibit the next order, together with the tongue, os hyoides, larynx, pharynx, or beginning of the gula, alſo one of the tonſils, and the membrane of the fauces laid bare all together. But we have here added the beginning of the ſtylopharyngeus, that this muſcle might appear entire. In this figure are removed part of the geniogloſſus that is incurvated by the ſide of the pharynx; alſo the upper, middle, and lower conſtrictor of the pharynx.

a The circumflex muſcle of the moveable palate.

b The elevator of the palate.

c c c The membrane of the pharynx naked.

d e The ſtylopharyngeus. e that part of it which joins itſelf to the upper part of the palatopharyngeus. i Fig. 2.

f f The palatopharyngeus.

g g h i k The common end of the ſtylopharyngeus and palatopharyngeus. h part of it which is inſerted into the external ſide of the edge of the thyroide cartilage, at the root of the upper proceſs. i k another part, which at i is inſerted into the remaining edge, and at k diſappearing below in the membrane of the pharynx.

l The conſtrictor of the iſthmus of the fauces.
m The tonſil.
n The tongue.
o p The ſtylogloſſus where it joins the tongue, cut off at p. See Fig. 2. k m.
q The baſiogloſſus and ceratogloſſus cut off.
r The lingualis.
ſ s The geniogloſſus. s its origin from the lower jaw. The contexture of fibres, incurvated by the ſide of the pharynx, is here removed, l Fig. 3.
t The chondrogloſſus ariſing from the grain-like bone of the os hyoides.
u v w The os hyoides. u the baſis, above v appears the ſmall grain-like bone. w the horn.
x The ligament which belongs to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides.
y z α The thyroide cartilage. z its upper proceſs, α its lower proceſs.
β The ligament by which the ſcutiform and annular cartilage are faſtened together in this place.
γ The annular cartilage.
Near δ is the poſterior cricoarytænoideus muſcle. See a Fig. 6.
ε The gula cut off.

FIGURE V.

In this figure are taken away not only ſome of the outer muſcles of the fourth figure, but alſo the pharynx is ſlit longitudinally, laid open, and the left part of it cut off, that not only the cavity thereof, but alſo the moveable palate with the root of the tongue and epiglottis might appear. The muſcles taken off are the ſtylopharyngeus and palatopharyngeus, with its common extremity and the chondrogloſſus.

a The circumflex muſcle of the moveable or ſoft palate.
b The elevator of the palate.
c The moveable palate. d the uvula. e the edge of the ſoft palate cut off.
f The tonſil.
g The conſtrictor of the iſthmus of the fauces.
h i The tongue. h the part which is contained in the mouth: i the part where it is incurvated within the fauces towards the baſis of the tongue and os hyoides.
k l The ſtylogloſſus muſcle cut off at l.
m The baſiogloſſus and ceratogloſſus cut off.
n The lingualis.
o p q The geniogloſſus. p its origin from the lower jaw. q the part which belongs to the tongue.
r r s The epiglottis. r r the convex part, s the concave part.
t u v The os hyoides. t the baſis. u the horn. v the ſmall grain-like bone.

w The

w The inner membrane of the larynx.
x The ligament belonging to the upper proceſs of the thyroide cartilage from the end of the horn of the os hyoides.
y z α The thyroide cartilage. z the upper proceſs, α the lower proceſs.
β The ligament by which the ſcutiform and annular cartilage are tied one to the other.
γ The annular cartilage.
Near δ is the poſterior cricoarytænoideus. See Fig. 6. a.
ε ε The cavity of the pharynx laid open.
ζ ζ The membrane of the pharynx cut open.
η The gula cut off.

FIGURE VI.

This figure follows after that of the larynx contained in the figure laſt preceding. The left ſide of the thyroide cartilage being cut off, the remainder repreſents the larynx, with the muſcles which lie next under the ſide of the thyroide cartilage; as alſo thoſe which are ſeated in the back part of the larynx.

We have not fixed letters on the ſcutiform and annular cartilages, with the epiglottis poſterior angle of the baſis of the left arytenoide, and the ſmall heads of the arytenoide cartilages; becauſe theſe may be better known or underſtood from the ſeventh figure.
a The poſterior cricoarytænoideus, ariſing from the annular cartilage, and inſerted into the arytenoide.
b The lateral cricoarytænoideus, ariſing from the upper margin of the cricoide cartilage.
c d The faſciculus, ariſing from the inner and upper part of the thyroide cartilage, not far from its notch or fiſſure, and inſerted into the baſis of the arytenoide cartilage. d the beginning cut off from the thyroide cartilage.
e The thyro-arytenoideus muſcle, ariſing in one part from the thryoide cartilage, and in the other from the ligament by which the annular and thyroide cartilage are tied together.
f g h A thin contexture of fleſhy fibres, which ariſing from the thyroide cartilage near the outer part of the origin of the thryo-arytenoideus, aſcends by the outer part f of the ſaid muſcle behind g, by the ſide of the glottis, and epiglottis h.
i The depreſſor of the epiglottis.
k The ligament by which the annular and thyroide cartilage are tied one to the other.
l The left oblique arytenoideus muſcle.
m m n The right oblique arytenoideus, n that part of it which goes by the margin of the glottis to the epiglottis: and the other part, near and betwixt n m, is continued on to the thryro-arytenoideus.
o The tranſverſe arytenoideus.
p The membrane which forms the lateral part of the glottis, extended from the little head of the arytenoide cartilage to the upper part of the epiglottis.

FIGURE.

FIGURE VII.

Repreſents the ſame contexture of the cartilages of the larynx as the preceding figure, but wholly naked or freed from the muſcles and membranes.

a b c The inner ſide of the right half of the thyroide cartilage. b the left half which is here cut off and removed. c the upper proceſs.

d e The cricoide cartilage. e the tubercle to which is tied the lower proceſs of the thyroide cartilage.

f g h The arytenoide cartilages. g h the baſis: g the baſis of the poſterior angle, projecting like a tubercle; h the anterior angle of the baſis, hollow in this part.

i The ſmall heads added to the arytenoide cartilages.

k l m n The epiglottis. k the back. l the concave part. m a round body projecting like a ligament in the concave part of the epiglottis, and ariſing from the inner part of the thyroide cartilage, below its fiſſure.

FIGURE VIII.

Repreſents the firſt order of the muſcles which are ſeated round the larynx, as they appear view'd on the back part. To ſhew theſe muſcles more diſtinctly, we have added not only the pharynx, and part of the gula, which is continued to it, but alſo the os hyoides, larynx, and part of the wind-pipe; likewiſe the naked bones of the head, to which the pharynx is connected.

We have not here added a full explanation of the bones or parts of the ſcull, becauſe they may be better underſtood from the tables which I have prepared, wherein the figures of the bones are expreſſed in their natural magnitude.

a b. a b c d e The lower conſtrictors of the pharynx. b the origin from the cricoide cartilage. c the point in which they terminate above, from c to d the fibres running together form an angle. e the part where the right fibres are continued to the left in a curved direction.

f The inner tranſverſe fibres of the gula in this place laid bare. g. g the outer fibres deſcending obliquely backwards on each ſide.

h The gula cut off.

Juſt above i i is the annular cartilage. See Fig. 14. ı ı ı.

k k The wind-pipe cut off.

l l The ends of the horns of the os hyoides.

m. m The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides. See Fig. 9. B. B.

n. n o The middle conſtrictors of the pharynx. o the part where the fibres meet together in angles.

p q r. p q r The upper conſtrictors of the pharynx. q the origin from the lower jaw near the innermoſt of the grinding teeth. r the part where it is cut off from the buccinator.

s s The

s s The naked membrane of the pharynx.
Juſt below t t is the circumflex muſcle of the moveable palate.
u v w. u v w The ſtylopharyngei muſcles. v the upper and leſs part. w the lower and larger part.
x x The ſtyloide proceſſes of the temporal bones. See Fig. 9. m. m.
y y The pterygoide proceſſes of the multiform bone.
z z The upper jaw bone where it forms the gums above the innermoſt of the grinding teeth.
α α The innermoſt of the upper grinders, which are the fifth in order.
β β The fifth of the lower grinding teeth.

FIGURE IX.

Exhibits the next view after the lower conſtrictor of the pharynx is taken off. But we have not added the bones of the head, that the upper parts of the pharynx might not be obſcured; and becauſe the manner in which the pharynx adheres to the bones of the head may be underſtood from the figure laſt preceding. But the ſtyloide proceſſes are added to ſhew the origin of the ſtylopharyngei.

a. a b c The middle conſtrictors of the pharynx. b the upper point in which they meet. c the lower point. From b to c the fibres converge angularly.
d e f. d e f The upper conſtrictors of the pharynx. At e cut off from the buccinator. f the part which ariſes from the lower jaw.
g h h i i i The naked membrane of the pharynx, in which is a ſinuoſity at h h near the protuberant ends of the larger internal recti muſcles of the head. i i i the parts where it is cut off from the baſis of the cranium round the upper part of the Euſtachian tubes and internal foramina of the noſtrils.
k k The elevators of the moveable palate. See Fig. 13. and 14. g. g.
l l The circumflex muſcle of the moveable palate. See Fig. 14. n. n. and 15. h. h.
m n. m n The ſtyloide proceſſes of the temporal bones cut off at their roots n. n.
o p q r. o p q r The ſtylopharyngei. p the tendinous beginning ariſing from the ſtyloide proceſs. q the lower and larger part. r the upper and leſs part.
s. s t u v v Parts of the common ends of the ſtylopharyngei and palatopharyngei, ariſing principally from the palatopharyngei, and in this place, from t to u the fibres meet together, or run one betwixt the other; in the part from u to v, vaniſhing on the back ſide of the membrane of the pharynx: at v inſerted into the thyroide cartilage.
w x y. w x y Parts of the common ends of the ſtylopharyngei and palatopharyngei, which ariſe chiefly from the ſtylopharyngei. x a portion of them inſerted into the outer ſide of the edge of the thyroide cartilage to the root of the upper proceſs. y the portion inſerted into the remaining part of the margin of the ſaid cartilage down to the root of the lower proceſs.
z The naked membrane of the lower part of the pharynx which is continued to the gula.
A A The ends of the horns of the os hyoides.

B B The

B B The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.

C C D D E E F F The thyroide cartilage. C. C the upper proceſſes. D. D the tubercles which are in the outer ſides at the roots of the upper proceſſes. E E the poſterior edges F F the lower proceſſes.

G G The annular cartilage. H H the wind-pipe cut off.

I The poſterior cricoarytænoideus. In the other ſide may be perceived the left.

FIGURE X.

Repreſents the next view of the muſcles after the middle conſtrictor of the pharynx is taken off. Alſo we did not think the ſtyloide proceſſes neceſſary to be added in this figure, becauſe they are in the ninth preceding.

a b c d e e. a b c d e e f g The upper conſtrictors of the pharynx. a the lower part which croſſes the upper part b. c d the portion that is partly cut off from the buccinator at c, and in part ariſes from the lower jaw at d. e. e portions which paſs betwixt the upper and lower part of the ſtylopharyngeus, and come hither thro' the upper part. f the upper tip or point in which the right and left of theſe conſtrictors meet together. From f to g the fibres of both of them meet in angles.

h The naked membrane of the pharynx, as in Fig. 9. g h h i i i.

i i The elevators of the ſoft or moveable palate. See Fig. 13 and 14. g g.

k k The circumflex muſcle of the palate. See Fig. 14. n n. and Fig. 15. h. h.

l m n o p. l m n o p The ſtylopharyngei. m the tendinous beginning. n the part cut off from the ſtyloide proceſs. o the upper and leſs part that forms two faſciculi, which both of them paſs ſeparately under the fibres of the upper conſtrictor. p the lower and larger part.

q r s. q r s Parts of the common ends of the ſtylopharyngei and palatopharyngei, which are produced from the ſtylopharyngei. r the portion inſerted into the outer ſide of the edge of the thyroide cartilage, at the root of the upper proceſs. s the portion inſerted into the ſubſequent part of the edge down to the root of the lower proceſs.

t. t u v w Parts of the common ends of the ſtylopharyngei and palatopharyngei, whoſe fibres run together from u to v; from v w the fibres vaniſh in the back part of the membrane of the pharynx, and at w they are inſerted into the thyroide cartilage.

x The naked membrane of the lower part of the pharynx which is continued to part of the gula.

y y The ends of the horns of the os hyoides.

z z The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.

α α β β γ γ δ δ The thyroide cartilage. α α the upper proceſſes. β β the protuberances in the outer ſides at the roots of the upper proceſſes. γ γ the poſterior edges. δ δ the lower proceſſes.

ε ε The

ε ε The annular cartilage.
ζ ζ The wind-pipe cut off.
η The poſterior cricoarytenoideus. The left is alſo repreſented.

FIGURE XI.

Repreſents the next face of the muſcles after the upper conſtrictor of the pharynx is taken off.

a The naked membrane of the pharynx. See Fig. 9. h h i i i.
b b The elevators of the moveable palate. See Fig. 13. and 14. g. g.
c c The circumflex muſcle of the ſoft palate. See Fig. 14. n. n. and 15. h. h.
d d The ſmall hooks of the pterygoide proceſſes. See Fig. 16. p. p.
e e The palatopharyngei.
f g h i k. f g h i k The ſtylopharyngei. g the tendinous beginning. h the part where it is cut off from the ſtyloide proceſs. i the upper and leſs part. k the lower and larger part.
l m n. l m n Parts of the common ends of the ſtylopharyngei and palatopharyngei, which ariſe from the ſtylopharyngei. m a portion of them inſerted into the outer ſide of the edge of the thyroide cartilage at the root of the upper proceſs. n the portion which is inſerted into the ſubſequent part of the margin down to the root of the lower proceſs.
o. o p q r Parts of the common ends of the ſtylopharyngei and palatopharyngei, the fibres of which from p to q run together; from q to r they vaniſh in the back part of the membrane of the pharynx, and at r they are inſerted into the thyroide cartilage.
s The naked membrane of the lower part of the pharynx, to which is continued part of the gula.
t t The ends of the horns of the os hyoides.
u u The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.
v v w w x x y y The thyroide cartilage. v v the upper proceſſes. w w the tubercles which are in the outer ſides at the roots of the upper proceſſes. x x the poſterior edges. y y the lower proceſſes.
z z The annular cartilage.
A The cricoarytenoideus poſticus, which is alſo repreſented in the left ſide.
B B The wind-pipe cut off.

FIGURE XII.

Exhibits the internal ſurface of the pharynx entire, as it appears after the whole back part of the pharynx, and adjacent gula, are cut off longitudinally on each ſide and removed. This figure we have added to render the four following more intelligible.

a a b b c c The edges, from whence is cut off the back part of the pharynx and gula.

d e. d e The Euſtachian tubes jetting out. e e the orifices by which they open laterally into the poſterior foramina of the noſtrils.

f The ſeptum of the noſtrils.

g g The cavity of the noſtrils; in which are ſeated the lower oſſa ſpongioſa h h, covered with the mucous membrane.

i i k l The ſoft palate and uvula. k the part where the body of the uvula is protuberant, l the pendulous part of the uvula.

m m The poſterior arches which deſcend laterally from the ſoft palate thro' the ſides of the pharynx.

n n The tonſils, prominent beyond the poſterior arches.

o o p The tongue. p the middle foſſula or cavity upon which the uvula is incumbent.

q The epiglottis.

r r The membranous ſides of the glottis.

s s The protuberance of the ſmall heads which lie upon the arytenoide cartilages.

Betwixt q r r s s is included the glottis.

ſ The rima or ſlit of the glottis.

t That which is call'd the lateral ligament of the epiglottis, where part of it belongs to the ſide of the epiglottis, under the inveſting membrane and common end of the ſtylopharyngeus and palatopharyngeus. The ſame is alſo in the left ſide.

u u Concavities at the ſides of the tube of the larynx, ſeated betwixt that and the thyroide cartilage.

v The back part of the tube of the larynx projecting within the pharynx.

w w The elevators of the ſoft palate. See Fig. 13. and 14. g. g.

x x The circumflex muſcle of the ſoft palate. See Fig. 14. n. n. and 15. h. h.

y y The ſmall hooks of the pterygoide proceſſes. See Fig. 16. p. p.

z z The palatopharyngei cut off.

α β γ δ ε. α β γ δ ε The ſtylopharyngei. β the tendinous beginning, cut off at γ from the ſtyloide proceſs. δ the lower and larger part. ε the upper and leſs part.

ζ ζ The ends of the horns of the os hyoides.

η η The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.

θ θ ι ι κ κ The thyroide cartilage. θ θ the upper proceſſes. ι ι the tubercles which are ſeated in the outer ſides at the roots of the upper proceſſes. κ κ the lower proceſſes.

λ λ The annular cartilage.

μ μ The wind-pipe cut off.

Here are alſo repreſented parts of the cricoarytenoidei poſtici, which may be underſtood from Fig. XI. laſt preceding.

FIGURE

FIGURE XIII

Repreſents thoſe muſcles which lie immediately under the membrane that covers the parts expreſſed in the fourth and tenth figure, which membrane is here removed. The beginning of the gula and wind-pipe are alſo taken away, as they are not here neceſſary.

a a The place where the back part of the pharynx is cut off.

b c. b c The Euſtachian tubes, as yet covered with their membrane which lines the inſide of the fauces.

c c The orifices by which they open at the ſides of the poſterior foramina of the noſtrils.

d d The cavities of the noſtrils.

e e The lower oſſa ſpongioſa cover'd with the mucous membrane.

f The ſeptum or partition of the noſtrils.

g h i. g h i The elevators of the ſoft or moveable palate. h the tendinous part of the beginning, i the lower part of it forming a diſtinct portion.

k k The circumflex muſcle of the ſoft or moveable palate. See Fig. 15. h. h.

l l The ſmall hooks of the pterygoide proceſſes. See Fig. 16. p. p.

m The azygus or ſingle muſcle of the uvula, from its beginning interwove with the tendinous ends of the elevators of the ſoft palate, and with the tendinous membrane, which coming from the noſe, paſſes thro' the upper part of the ſoft palate, m Fig. 14.

n o p. n o p The palatopharyngei. n the part which goes through the ſoft palate above the elevator of the ſaid palate, and paſſing out at o from the tendinous membrane, which coming from the noſe, paſſes through the upper part of the ſoft palate, m Fig 14. p the part which afterwards paſſes under the elevator of the palate.

q q The ſalpingopharyngei joining to the palatopharyngei.

r s t u v. r s t u v The ſtylopharyngei. s the tendinous beginning, t the part where it is cut off from the ſtyloide proceſs. u the upper and leſs part of the ſtylopharyngeus: v the lower and larger part.

w w Parts of the common ends of the palatopharyngei, ſalpingopharyngei, and ſtylopharyngei, which deſcend through the ſides of the pharynx, are protuberant within the ſame, and form the poſterior arches which deſcend along the ſides of the fauces from the ſoft palate.

x y. x y Parts of the common ends of the ſtylopharyngei and palatopharyngei produced from the ſtylopharyngei; of which the part x runs inward through the lateral ligament of the epiglottis, near the lateral margin or edge of the epiglottis; the part y is inſerted into the upper edge of the thyroide cartilage betwixt its upper proceſs and the epiglottis.

z z The poſterior edges of the ſoft or moveable palate.

α The uvula.

β β The tonſils, which are protuberant beyond the palatopharyngei muſcles.

γ The tongue.

δ The epiglottis.

ε. ε The

ε. ε The membranous ſides of the glottis.

ζ. ζ The ſmall heads which are added to the arytenoide cartilages.

η. η The oblique arytenoidei muſcles which have two terminations, one upper, running through the membranous ſides of the glottis to the epiglottis: the other lower, which continues itſelf to the thyro-arytenoideus.

θ θ θ θ The arytenoideus tranſverſus.

ι κ κ. ι κ κ The cricoarytenoidei poſtici, ariſing at κ κ from the cricoide cartilage.

λ The cricoide cartilage.

μ μ The thyroide cartilage.

ν ν The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.

ξ ξ The ends of the horns of the os hyoides.

FIGURE XIV.

Repreſents the next face of the muſcles, viz. of the arytenoidei obliqui, and tranſverſus, with the poſterior cricoarytenoidei, and the membrane which forms the ſides of the glottis betwixt the arytenoide cartilages and the epiglottis; after the ſalpingopharyngei, azygus of the uvula, and parts if the palatopharyngei which run over the ends of the elevators of the ſoft palate are taken away.

a a Denotes the place from whence the back part of the pharynx is cut off.

b c. b c The Euſtachian tubes covered with the membrane which forms and lines the inſide of the fauces. c c the orifices which open laterally in the poſterior foramina of the noſtrils.

d d The cavities of the noſtrils.

e e The lower oſſa ſpongioſa covered with the mucous membrane.

f The partition of the noſtrils.

g h i k l. g h i k l The elevators of the ſoft palate. h the tendinous part of its beginning. i the portion which is faſten'd by a ſmall tendinous end to the tendinous membrane, which coming from the noſtrils, is ſpread thro' the upper ſide of the ſoft palate. k the part where the right and left elevators are continued one to the other. l the lower part forming a diſtinct portion.

m The tendinous membrane, which coming from the noſtrils, is ſpread thro' the upper ſide of the ſoft palate.

n n The circumflex muſcle of the ſoft palate. See Fig. 15. h. h. and 16. i. i.

o o The ſmall hooks of the pterygoide proceſſes. See Fig 16. p. p.

p q r s t. p q r s t The ſtylopharyngei. q the tendinous beginning, r the part where it is cut off from the ſtyloide proceſs. s the upper and leſs part, t the lower and larger part.

From u to v are cut off parts of the common ends of the ſtylopharyngei and palatopharyngei, which run thro' the back part of the membrane of the pharynx.

w w Parts of the palatopharyngei which paſs thro' the ſoft palate, under the ends of the elevators of the ſaid palate. Thoſe parts are here removed which paſs above the foreſaid ends, n. n Fig. 13.

x x Parts of the common ends of palatopharyngei, ſalpingopharyngei, and ſtylopharyngei, which deſcend through the ſides of the pharynx, are protuberant within the ſame, and form the poſterior arches which deſcend along the ſides of the fauces from the ſoft palate.

y z. y z Parts of the common ends of the ſtylopharyngei and palatopharyngei produced from the ſtylopharyngei: of which the part y runs within through the lateral ligament of the epiglottis, to the lateral edge of the epiglottis; z the part that is inſerted into the upper edge of the thyroide cartilage, betwixt its upper proceſs and the epiglottis.

α α The poſterior edges of the ſoft palate.

β The uvula.

γ γ The tonſils.

δ The tongue.

ε ζ The epiglottis. ζ the round body like a ligament.

η η The ſmall heads added to the arytenoide cartilages.

θ θ The arytenoide cartilages.

ι κ κ The annular cartilage. κ κ the ſurface from whence ariſe the poſterior cricoarytenoidei.

λ λ μ μ The thyroide cartilage. λ the inner part.

ν ν The ligaments which belong to the upper proceſſes of the thyroide cartilages from the ends of the horns of the os hyoides.

ξ ξ The ends of the os hyoides.

FIGURE XV.

Repreſents the next face of the muſcles, after the elevators of the ſoft palate, with the annular and arytenoide cartileges, and the additaments that are faſten'd to them, are taken away.

a a The place from whence the back part of the pharynx is cut off.

b c d. b c d The Euſtachian tubes, as yet covered at b with the membrane that lines the inſide of the fauces, at c they are naked, that part of them having been cover'd by the elevators of the ſoft palate. d d the orifices by which they open laterally into the poſterior foramina of the noſtrils.

e e The lower oſſa ſpongioſa covered with the mucous membrane.

f f The cavities of the noſtrils.

g The partition of the noſtrils.

h i k. h i k The circumflex muſcle of the ſoft palate. i the tendon in which it ends. k the tendinous part of its beginning.

l The outer ſide of the pterygoide proceſs, which is alſo in the left ſide.

m m the ſmall hooks in thoſe proceſſes. See Fig. 16. p. p.

n The aponeuroſes of the circumflex muſcles. See Fig. 16. m m n.

o o Parts of the upper conſtrictors of the pharynx cut off, which ariſe from the aponeuroſes of the circumflex muſcles of the ſoft palate.

p q q. p q q r Parts of the palatopharyngei which paſs thro' the ſoft palate under the ends of the elevators of the ſaid palate; at q q q they paſs out from the aponeuroſes of the circumflexi; at r they are continued one to the other.

From s to s are cut off parts of the common ends of the ſtylopharyngei and palatopharyngei, which run thro' the back part of the membrane of the pharynx.

t t Parts of the common ends of the palatopharyngei, ſalpingopharyngei, and ſtylopharyngei, which deſcend thro' the ſides of the pharynx, are protuberant within the ſame, and form the poſterior arches which deſcend from the ſoft palate through the ſides of the fauces.

v w. v w Parts of the common ends of the ſtylopharyngei and palatopharyngei produced from the ſtylopharyngei; of which the part v runs inward thro' the lateral ligament of the epiglottis, at the lateral edge of the epiglottis; the part w is inſerted into the upper edge of the thyroide cartilage, betwixt its upper proceſs and the epiglottis.

x y z α β. x y z α β The ſtylopharyngei. y the tendinous beginning, cut off at z from the ſtyloide proceſs. α the upper and leſs part. β the lower and larger part.

γ The uvula.

δ δ The poſterior margins of the ſoft palate.

ε ε The tonſils.

ζ The tongue.

η θ ι The epiglottis. θ the round body like a ligament. ι its origin from the inner part of the thyroide cartilage.

κ κ λ μ μ ν ν ξ ξ The thyroide cartilage. κ κ the inner ſides. λ the unequal protuberance. μ μ the lower proceſſes. ν ν the upper proceſſes. ξ ξ the protuberances in the external ſides at the roots of the upper proceſſes.

ο ο The ligaments which belong to the upper proceſſes of the thyroide cartilage from the ends of the horns of the os hyoides.

π π The ends of the horns of the os hyoides.

FIGURE XVI.

Follows immediately after the upper part of the laſt preceding figure, the portions of the upper conſtrictors of the pharynx, and the next adjacent parts of the palatopharyngei being here removed.

a. a The place from whence the back part of the pharynx is cut off.

b c d. b c d The Euſtachian tubes, as yet covered at b d by the membrane which lines the inſide of the fauces, at c c they are naked in thoſe parts upon which lay the elevators of the ſoft palate. d d the orifices by which they open into the ſides of the poſterior foramina of the noſtrils.

e e The lower oſſa ſpongioſa covered with the mucous membrane.

f f The cavities of the noſtrils.

g The partition of the noſtrils covered with the mucous membrane.

h h The

h h The parts from whence is cut the membrane which lines the inſide of the cavity of the noſtrils.

i k l m. i k l m n The circumflex muſcle of the ſoft palate. k the tendinous part of its beginning. l the tendon. m the aponeuroſis inſerted into the poſterior edge of the palate bones. n the conjunction of the aponeuroſes one with the other.

o p. o p The external ſides of the pterygoide proceſſes. p p their ſmall hooks.

FIGURE XVII.

Exhibits the open mouth and fauces, to ſhew the muſcles which appear to belong to the ſoft or moveable palate on the fore ſide, after the inveſting membrane is taken off.

a a The gums.

b b The tonſils.

c c The poſterior edges of the ſoft palate, betwixt which is the uvula.

d d The fauces.

e The tongue.

f g. f g h i The conſtrictors of the iſthmus of the fauces, which in the part f paſs from the tongue to the palate before the tonſils. g the part that goes thro' the ſoft palate. h the place where they conjoin together, and afterwards ſmaller portions of them run into the uvula at i.

k k Parts of the palatopharyngei which run thro' the ſoft palate above the foreſaid conſtrictors, under the elevators of the ſoft palate.

FIGURE XVIII.

Exhibits the bottom of the foot in which are expreſſed all the aponeuroſes, muſcles, and ligaments, which lie immediately next to the common integuments.

A B C D E F G H The middle aponeuroſis of the ſole of the foot, on one ſide joined with the aponeuroſis that covers the abductor of the little toe, on the other ſide with that which covers the abductor of the great toe. B its origin from the protuberance of the calcaneum. C. D. E. F. G the five parts of it which belong to the toes, and which at laſt, being ſplit at the ends, embrace the tendons, namely of the long flexor of the great toe, and of the long and ſhort flexors of the other toes: from theſe portions alſo thin expanſions run out further thro' the body of fat, which is placed under the anterior ends of the metatarſal bones, at the roots of the toes; but theſe we have not added to avoid obſcuring the figure. H the portion which joins with the aponeuroſis that covers the great toe, and goes to the origin of the ſhort flexor of the great toe.

I K L M N The aponeuroſis that covers the abductor of the little toe. K its origin from the protuberance of the calcaneum. L a portion which it inſerts into the firſt head of the metatarſal bone of the little toe. M a portion.

tion that joins the middle aponeuroſis of the ſole of the foot, but is not always found to do ſo. N the portion which it gives to the beginnings of the ſmall flexor of the little toe and interoſſeous muſcle of the ſame toe.

O P The aponeuroſis that covers the abductor of the great toe. P its origin from the calcaneum.

Q R S The abductor of the great toe. R the tendon conjoined with the ligament S which belongs to the firſt bone of the great toe from the outer ſeſamoide bone, and together with the ſaid ligament is inſerted into that firſt bone.

T The ligament which ariſing from the outer ſeſamoide bone of the great toe belongs to the firſt bone of that toe whereinto it is inſerted, and conjoined with the tendon of the abductor of the great toe.

U V W Part of the ſhort flexor of the great toe belonging to the outer ſeſamoide bone, and inſerting itſelf into the ſaid ſeſamoide bone at V; at W joining itſelf to the tendon of the long abductor of the great toe. X part of the ſame flexor belonging to the inner ſeſamoide bone.

Y Z The common tendinous end of the ſhort flexor and abductor of the great toe with the tranſverſalis, inſerted into the inner ſeſamoide bone of that toe, and afterwards being conjoined with the ligament that goes to the firſt bone of the toe from the ſaid ſeſamoide bone, is therewith inſerted into that bone at Z.

a The ligament, which ariſing from the inner ſeſamoide bone of the great toe, conjoins itſelf with the tendinous end of the abductor of the ſaid toe, and therewith belongs to the firſt bone of that toe into which it is inſerted.

æ æ b The tendon of the long flexor of the great toe, inſerted at b into the laſt bone of that toe.

c The ligament that confines the tendon of the long flexor of the great toe, at the joint of that toe with its metatarſal bone.

d d Two ligaments which croſs each other and confine the tendon of the long flexor of the great toe, where it runs along the bone of the firſt phalanx of that toe.

e f g h The Lumbricales: e the firſt, f the ſecond, g the third, h the fourth.

i i i The tranſverſalis pedis.

k The ſecond interoſſeus of the firſt of the ſmall toes.

There is alſo a portion of the firſt interoſſeus of the other ſide to be ſeen betwixt the firſt lumbricalis and metatarſal bone of that toe with the bone of the firſt phalanx. This is too minute to admit of fixing a letter on it for the explanation; but Fig. 22. m. will help towards a better knowledge of it.

l The ſecond interoſſeus of the ſecond of the ſmall toes.

There is alſo a part of the firſt interoſſeus of this toe, betwixt the bone of the firſt phalanx and the ſecond lumbricalis. See Fig. 22. s.

m m The ſecond interoſſeus of the third of the ſmall toes.

There is alſo part of the firſt interoſſeus of this toe betwixt the third lumbricalis, the metatarſal bone, and the bone of the firſt phalanx of this toe. See Fig. 22. y.

n The ſhort flexor of the toes.

o The

o The interoſſeus of the little toe; part of which is alſo preſent betwixt the fourth lumbricalis and bone of the firſt phalanx of this toe. See Fig. 22. ε.

p The ſhort flexor of the little toe.

q r The abductor of the little toe. r the tendon inſerted into the bone of the firſt phalanx of the little toe.

s, as in this toe ſo in the reſt of the ſmall toes are repreſented the ligaments which confine the tendons of the long and ſhort flexors as they paſs near the anterior heads of the metatarſal bones.

t, as in this ſo in the other ſmall toes are exhibited the ligaments which confine the tendons of the long and ſhort flexors, about the middle of the bones of the firſt phalanx.

u, as in this firſt ſo in the other ſmall toes are ſeen the ligaments which confine the tendons of the long and ſhort flexors, about the bones of the ſecond internodes, or phalanx.

v w w The tendon of the ſhort flexor of the toes: w w the horns of it which belong to the bone of the ſecond order. By the ſide of this laſt tendon, next the great toe, is the tendon of the long flexor. The ſame are alſo in the reſt of the ſmall toes.

x One of the tendons of the long flexor of the toes inſerted into the third bone. A portion of the ſame tendon is alſo ſeen by the ſide of the ſhort flexor tendon, v which lies next the great toe; as alſo betwixt the horns w w of that tendon. See Fig. 19. The ſame is likewiſe to be underſtood of the other ſmall toes.

FIGURE XIX.

Repreſents the firſt order of the muſcles in the ſole of the foot, after the aponeuroſes and moſt of the ligaments in the preceding figure are taken away.

A B C D E The abductor of the little toe compoſed of two parts A and B. C D the origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it adheres to, and is cover'd by, the aponeuroſis plantaris. E the tendon inſerted into the firſt bone of the little toe.

F G H I The abductor of the great toe. G its origin from the protuberance of the calcaneum, whence it is outwardly tendinous and coheres in that part for a conſiderable length with the aponeuroſis that covers it. H the tendon which at laſt is conjoined with the ligament that belongs to the firſt bone of the great toe from the outer ſeſamoide bone of that toe, and is inſerted with the ſame ligament into that firſt bone.

K The ligament which ariſing from the outer ſeſamoide bone of the great toe, is inſerted into the firſt bone of that toe, and is conjoined with the tendon of the abductor of the great toe.

L M N O P Q R S T U V The ſhort flexor of the toes. M its origin from the protuberance of the calcaneum, whence it is outwardly tendinous in the part where it coheres for a conſiderable length from its origin with the middle aponeuroſis plantaris, ſo that it ſeems in a manner to ariſe from

thence. N the portion belonging to the firſt of the ſmall toes: O its tendon which at laſt ends in the two horns P Q. R the portion belonging to the ſecond of the ſmall toes: S its tendon divided in the ſame manner towards its end into two horns. T the portion belonging to the third toe: U its tendon, in like manner ſplit, at its end, into two horns. V the tendon belonging to the fourth toe, at laſt, like the reſt divided into two horns.

W A tendinous portion which ariſes from the lower protuberance of the cubiform bone, and ends in the origin of the ſhort flexor (a) of the little toe, its interoſſeous muſcle Z, and in the ſecond interoſſeus of the third of the ſmall toes X.

X Y The ſecond interoſſeous muſcle of the third of the ſmall toes. Y the tendinous end inſerted into the firſt bone of that toe.

There is alſo a portion of the firſt interoſſeus of this toe, on the other ſide betwixt its firſt bone, the metatarſal bone and the third lumbricalis. ſee Fig. 22. y.

Z The interoſſeous muſcle of the little toe whoſe end appears betwixt the fourth lumbricalis and the firſt bone of the ſaid little toe. ſee Fig. 22. ε.

a b The ſhort flexor of the little toe. b its tendinous end inſerted into the firſt bone of the little toe.

c d e f The lumbricales: c the fourth. d the third. e the ſecond. f the firſt. ſee Fig. 20. Z. X. W. S.

g g h The tranſverſalis muſcle of the foot, h its tendinous origin. ſee Fig. 21. f.

i The ſecond interoſſeus of the ſecond of the ſmall toes.

Part of the firſt interoſſeus is alſo in the other ſide, betwixt the ſecond lumbricalis, the metatarſal bone and firſt bone of this toe. ſee Fig. 22. s.

k The ſecond interoſſeus of the firſt of the ſmall toes.

Part of the firſt is alſo on the other ſide of this toe, betwixt the firſt lumbricalis, the metatarſal bone, and bone of the firſt phalanx of this toe. ſee Fig. 22. m.

l m One of the tendons of the long flexor of the toes, inſerted into the third bone m. Part of this tendon of the long flexor is alſo ſeen above, on that ſide of the tendon of the ſhort flexor which is next the great toe. The like tendon is alſo in the other ſmall toes. ſee Fig. 20. N. O. P. Q.

n o The tendon of the long flexor of the great toe, inſerted into the laſt bone of that toe, o.

p The abductor of the great toe.

q q Part of the ſhort flexor of the great toe, belonging to the inner ſeſamoide bone of that toe.

r s t The common tendinous end of the ſhort flexor and abductor of the great toe, with the tranſverſalis pedis, inſerted at s into the inner ſeſamoide bone, at t conjoined with the ligament which belongs to the firſt bone of the toe from the inner ſeſamoide bone, and inſerted with that ligament into the ſaid bone.

u The ligament which belonging to the firſt bone of the great toe from the inner ſeſamoide bone, joins itſelf with that part of the common end of the ſhort

ſhort flexor and adductor of the great toe, with the tranſverſalis pedis, which belongs to the adductor.

v Part of the portion which the middle aponeuroſis plantaris gives to the origin of the ſhort flexor of the great toe. ſee Fig. 18. H.

w x y Part of the ſhort flexor of the great toe, belonging to the outer ſeſamoide bone of that toe. x the part where it joins the tendon of the abductor of the great toe, y its inſertion into the ſeſamoide bone.

FIGURE XX.

Exhibits the ſecond order of the muſcles in the ſole of the foot, after the abductor of the little toe, moſt part of the abductor of the great toe, and the ſhort flexor of the toes are taken away.

A B The tendon of the long flexor of the toes: B the knot or induration where this tendon rubs againſt the calcaneum. C D E F G the muſcular head which joins the long flexor of the toes in the ſole of the foot, conſiſting of two portions diſtinct from the beginning C and D. The one part C ariſes from the calcaneum at E. The other part D, begins by a thin tendon F, ariſing from the calcaneum at G. H the portion that joins or continues the tendon of the long flexor of the toes to the tendon of the long flexor of the great toe. I K L M the four tendons into which it divides, with the head that joins it; which tendons belong to the four ſmall toes, and are in a manner ſplit longitudinally at N. O. P. Q, being inſerted into the third or laſt bones, as at R.

S T V The firſt lumbricalis, T its origin from the firſt and ſecond tendon of the long flexor of the toes. V its tendon: from whence the tendons of the reſt may be underſtood.

W The ſecond lumbricalis.

X Y The third lumbricalis, Y its origin from the ſecond and third tendon of the long flexor of the toes.

Z a The fourth lumbricalis, a its origin from the third and fourth tendon of the long flexor of the toes.

b c d e The tendon of the long flexor of the great toe, increaſed at c by a portion received from the tendon of the long flexor of the toes, is then in a manner ſplit longitudinally at d, and is at laſt inſerted at e into the laſt bone of the great toe.

f g h The tendon of the tibialis poſticus. f its knot or turning which lies upon the head of the aſtragalus. g its inſertion below into the navicular bone. h its inſertion into the large cuneiform bone.

i k The two ends of the tendon of the tibialis anticus, one of which i is inſerted into the large cuneiform bone, the other k belongs to the metatarſal bone of the great toe.

l Part of the portion which the middle aponeuroſis plantaris gives to the beginnings of the ſhort flexor of the great toe. ſee Fig. 18. H.

m n The

m n The tendon of the abductor of the great toe cut off. n the end by which it joins the ligament from the outer ſeſamoide bone to the firſt internode of the great toe, in which bone it is inſerted.

o The ligament, which belongs to the firſt bone of the toe from its outer ſeſamoide bone, conjoined with the end of the tendon of the abductor of the great toe.

p q r Part of the ſhort flexor of the great toe, which belongs to the outer ſeſamoide bone of the great toe. q the part where it joins the tendon of the abductor of the great toe. r its inſertion into the outer ſeſamoide bone.

s s Part of the ſhort flexor of the great toe, which belongs to the inner ſeſamoide bone of the great toe.

t t The adductor of the great toe.

u v w The common tendinous end of the ſhort flexor and adductor of the great toe, with the tranſverſalis pedis: v its inſertion into the inner ſeſamoide bone of the great toe, w its conjunction with the ligament which belongs to the firſt bone of the great toe from its inner ſeſamoide bone, and is inſerted with that ligament into the ſaid firſt bone of the great toe.

x The ligament which belongs to the firſt bone of the great toe from its inner ſeſamoide bone, and is conjoined with the tendinous end of the adductor of the great toe.

y The tendon of the peroneus brevis.

z α β The tendon of the long peroneus. α the knot or turning where it paſſes by a protuberance of the calcaneum. β another knot where it bends to the cuboide bone.

γ δ ε The ligament which ariſing from the calcaneum δ, inſerts itſelf into the eminence of the os cuboides, at which the tendon of the long peroneus bends itſelf. ε its inſertion into the ſaid eminence.

ζ The tendinous part which ariſes from the bottom of the cuboide protuberance, and ends in the origin of the ſhort flexor and interoſſeus of the little toe, and ſecond interoſſeus of the third of the ſmall toes. η an excurſion of the ligament marked γ, which joining itſelf to the tendinous part ζ, forms therewith the common tendinous part θ, which joins the origins of the ſhort flexor and interoſſeus of the little toe, and both the interoſſei of the third of the ſmall toes, with that of the abductor of the great toe.

ι κ The ſhort flexor of the little toe, κ its inſertion into the firſt bone of the little toe by its tendinous end.

λ The interoſſeus of the little toe. Its tendinous end, which is inſerted into the firſt bone of this toe, appears betwixt the fourth lumbricalis and the firſt bone of this toe: See Fig. 22. ε.

μ ν The ſecond interoſſeus of the third of the ſmall toes. ν its tendinous end inſerted into the firſt bone of that toe.

ξ The firſt interoſſeus of the third of the ſmall toes, the tendinous end of which is inſerted into the bone of the firſt order of the ſame toe, and may be ſeen betwixt the third lumbricalis of the metatarſal bone, and the firſt internode of this toe. See Fig. 22. y.

o The tendinous end of the ſecond interoſſeus of the ſecond of the ſmall toes, inſerted into the firſt internode of the ſame toe.

On

On the other ſide of this toe lies the tendinous end of its firſt interoſſeus, betwixt the firſt lumbricalis, metatarſal bone, and firſt internode of this toe. See Fig. 22. s.

π The tendinous end of the ſecond interoſſeus of the firſt of the ſmall toes, inſerted into the firſt bone of the ſaid toe.

On the other ſide of this toe likewiſe is the tendinous end of the firſt interoſſeus betwixt the firſt lumbricalis, the metatarſal bone, and the firſt internode of this toe. See Fig. 22. m.

FIGURE XXI.

Repreſents the third order of the muſcles of the foot, having firſt taken away the muſcular head which joins the long flexor of the toes in the ſole of the foot, the tendons of the long flexor of the toes, the lumbricales and tendon of the long flexor of the great toe.

A The tendon of the ſhort peroneus.

B C D The tendon of the long peroneus. C its knot or turning where it is applied to the calcaneum. D the other knot where it bends to the cuboide bone. Betwixt r and l are the portions inſerted into the large cuneiform bone. See Fig. 22. g. h.

E F G H I The tendon of the tibialis poſticus, cut off at E. F the knot or turning by which it is applied to the head of the aſtragalus. G its inſertion below into the navicular bone. H its inſertion into the large cuneiform bone. I the portion which it inſerts to the third cuneiform bone, and then runs out to the ſecond and third metatarſal bone, giving a portion to the ſhort flexor of the great toe.

K L M M The ligament which ariſing from the calcaneum belongs to the cuboide bone, wherein it is inſerted at M M.

N The tendinous part which ariſes from the bottom of the protuberance of the cuboide bone, and ends in the beginning of the ſhort flexor of the little toe, the interoſſeus of that toe, and the ſecond interoſſeus of the third of the ſmall toes. O the excurſion of the ligament marked K, which joining the tendinous part N, forms therewith the common tendinous part P, which joins the origins of the ſhort flexor and interoſſeus of the little toe, both the interoſſei of the third of the ſmall toes, and of the adductor of the great toe.

Q R The ſhort flexor of the little toe, inſerted by its tendinous end R into the firſt bone of the ſaid little toe.

S The interoſſeus of the little toe, whoſe tendinous end, near T, is inſerted into the bone of the firſt order.

U V The ſecond interoſſeus of the third of the ſmall toes. V its tendinous end inſerted into the bone of the firſt order.

W X The firſt interoſſeus of the third of the ſmall toes. X its tendinous end inſerted into the bone of the firſt order.

Y Z The ſecond interoſſeus of the ſecond of the ſmall toes. Z its tendinous end inſerted into the bone of the firſt order.

a b The

a b The firſt interoſſeus of the ſecond of the ſmall toes. b its tendinous end inſerted into the bone of the firſt order.

c d The ſecond interoſſeus of the firſt of the ſmall toes. d its tendon inſerted into the bone of the firſt order.

e The tendon of the firſt interoſſeus of the firſt of the ſmall toes, inſerted into the bone of the firſt order.

f g h i The tranſverſalis muſcle of the foot. g the part which ariſes from the capſule inveſting the joint of the third of the ſmall toes with its metatarſal bone. h its tendinous origin. i its extremity by which it joins the common tendinous end of the adductor and ſhort flexor of the great toe.

k l m n The adductor of the great toe. l part of it in ſome meaſure divided from the reſt. m the tendinous part of its origin. n its tendinous end.

o p q r s Part of the ſhort flexor of the great toe which belongs to the inner ſeſamoide bone of that toe. p the tendon ariſing from the calcaneum q, part of which tendon goes into the beginning of this flexor. r the tendinous beginning of this part of the ſhort flexor ariſing from the middle of the cuneiform bone. s the origin of the tendinous end.

t u v The common tendinous end of the ſhort flexor and adductor of the great toe with the tranſverſalis pedis: u its inſertion into the inner ſeſamoide bone of the great toe. v its conjunction with the ligament which belongs to the firſt bone of the great toe from the inner ſeſamoide bone being inſerted into the ſaid firſt bone.

w The ligament which ariſes from the inner ſeſamoide bone of the great toe, and is inſerted into the firſt bone of that toe conjoined with the tendon of the adductor.

x Part of that portion of the middle aponeuroſis plantaris which goes into the origin of both parts of the ſhort flexor of the great toe.

y z α Part of the ſhort flexor of the great toe that belongs to the outer ſeſamoide bone of that toe, at z it joins the tendon of the abductor of the great toe: α its inſertion into the outer ſeſamoide bone of the great toe.

β γ δ The abductor of the great toe cut off, conjoined by its end δ with the ligament which goes from the outer ſeſamoide bone of the great toe to its firſt internode in which they are inſerted together.

ε The ligament which belongs to the bone of the firſt phalanx of the great toe from the outer ſeſamoide bone, and is conjoined with the tendon of the abductor of the great toe.

ζ η The two portions of the end of the tendon of the tibialis anticus: of which one, ζ, is inſerted into the large cuneiform bone: the other, η, belongs to the metatarſal bone of the great toe.

FIGURE XXII.

Exhibits the fourth and laſt order of the muſcles in the ſole of the foot, in order to which are taken away the tendon of the tibialis poſticus, the ligament which ariſing from the calcaneum belongs to the cuboide bone, the ſhort flexor of the little toe, the tranſverſalis of the foot, the abductor of the great toe, the ſhort flexor of the great toe, the ligaments which go from the ſeſamoide bones to the

the first phalanx of the great toe, and the end of the abductor of the great toe.

a The tendon of the short peroneus.

b c d e f g h i The tendon of the long peroneus. c the knot or turning which is applied to the calcaneum. d the more considerable knot where this tendon bends at the eminence of the cubeiform bone. e the end inserted into the metatarsal bone of the great toe. f a portion going off from the tendon, and dividing into two parts g. h, inserted into the great cuneiform bone. i the portion going off the tendon, and inserted into the second metatarsal bone.

k. l The two ends of the tendon of the tibialis anticus, the one of which, k, is inserted into the large cuboide bone, the other, l, into the metatarsal bone of the great toe.

m n o The first interosseus of the first of the small toes. n its origin from the second metatarsal bone. o the tendon inserted into the bone of the first order.

p q r The second interosseus of the first of the small toes. q the tendinous beginning arising from the second and third of the metatarsal bones. r the tendon inserted into the bone of the first phalanx.

s t u The first interosseus of the second of the small toes. t its origin from the second metatarsal bone. u the tendon inserted into the bone of the first phalanx.

v w x The second interosseus of the second of the small toes. w its origin from the third metatarsal bone. x the tendon inserted into the bone of the first phalanx.

y z α The first interosseus of the third of the small toes. z its origin from the fourth metatarsal bone. α the tendon inserted into the bone of the first phalanx.

β γ δ The second interosseus of the third of the small toes. γ its origin from the fourth metatarsal bone. δ the tendon, inserted into the bone of the first phalanx.

ε ζ η The interosseus of the little toe. ζ its origin from the fifth metatarsal bone. η the tendon inserted into the bone of the first phalanx.

FIGURE XXIII.

Represents the articulation of the bones of the foot view'd from its bottom. This figure is added, that from thence may be understood the parts of the bones expressed in the other preceding figures of the foot; and it was the more necessary to add this view, as it could not be given in the figures of the Skeletons.

A B C D E The os calcis. B the protuberance which forms the heel. C an eminence incrusted with a smooth cartilage which sustains the tendon of the long peroneus. D an eminence, from the bottom of which arises the ligament K, Fig. 21. E a sinus or groove, thro' which passes the tendon of the long flexor of the great toe.

F G H

F G H The talus or aſtragalus. G H the lower head incruſted with a ſmooth cartilage, part of which head, G, belongs to the juncture with the calcaneum, but the part H is articulated by a ligament which paſſes under this head from the calcaneum to the navicular bone.

I K L The cuboide bone. K an eminence, by the ſide of which paſſes the tendon of the long peroneus. L a riſing tubercle incruſted with a ſmooth cartilage, on which lies the moſt conſiderable knot or turning of the ſaid tendon.

M N The navicular bone. N a riſing tubercle, into which is inſerted the tendon of the tibialis poſticus.

O P Q The great cuneiform bone. P an eminence, into which is inſerted the tendon of the tibialis poſticus. Q an eminence, into which is inſerted part of the tendon of the tibialis anticus, k, Fig. 22.

R The leſs cuneiform bone.

S T The middle cuneiform bone. T the protuberance from whence ariſes the tendinous beginning of the ſhort flexor of the great toe, r, Fig. 21.

U V W X The firſt bone of the metatarſus, belonging to the thumb. V the place into which is inſerted part of the tendon of the tibialis anticus, l, Fig. 22. W the ſurface into which is inſerted the tendon of the long peroneus. X the anterior head incruſted with a ſmooth cartilage.

Y. Z The ſeſamoidal bones placed at the joint of the great toe with its metatarſal bone. Y the outer, Z the inner of them.

a f. b f. c f. d e f The metatarſal bones of the ſmall toes. a that of the firſt, b of the ſecond, c of the third, d e of the fourth, of which e is a riſing protuberance, f. f. f. f the anterior heads incruſted with a ſmooth cartilage.

g. h. i. k. l. m The bones of the firſt order, g that of the great toe, h. i. k. l thoſe of the ſmall toes, m the round head incruſted with a ſmooth cartilage; and the like is in the other bones of the toes.

n. o. p. q. r The bones of the ſecond order of the ſmall toes. r the round head incruſted with a ſmooth cartilage: as are alſo the other bones.

s t The laſt bone of the great toe: t the protuberance at the end, the like of which is alſo in the laſt or third bones of the ſmall toes.

u v w x The third or laſt bones of the ſmall toes.

FIGURE XXIV.

Gives an internal view of the muſcles ſeated under the ſternum, with the next adhering parts of the ribs or thorax.

a b c d e f g h i k l m n o p q r s t u v w The triangularis muſcle of the ſternum. a the head ariſing from the third rib, with a tendinous beginning b: c the origin from the cartilaginous part of the rib, d from the bony part. e the head ariſing from the fourth rib, with a tendinous beginning f: g the origin from the bony part of the rib, h from the cartilaginous part. i the head ariſing from the fifth rib, by a tendinous origin k: l the origin from the cartilaginous part of the rib, m from the bony part. n the common tendinous part of the two upper heads, which in ſome bodies is conjoined with

with the tendinous part of the lower head o, but in others is ſeparate: it is inſerted into the extreme cartilage p of the fourth rib, and into the os pectoris q betwixt the cartilaginous ends of the fourth and fifth rib, into the end of the cartilage of the fifth rib r, into the os pectoris s betwixt the extreme cartilages of the fifth and ſixth ribs, into the end of the cartilage of the ſixth rib t, and of the ſeventh u, into the bone of the enſiform cartilage v, and into the enſiform cartilage itſelf w.

x y z α Is a ſmall muſcle here correſponding to the triangularis ſterni, and found in ſome bodies. y its origin from the bony part of the ſecond rib, and from the cartilaginous part z. α its tendinous end inſerted into the cartilage of the third rib.

β. γ. δ. ε. ζ. η. θ The ribs: β the ſecond, γ the third, δ the fourth, ε the fifth, ζ the ſixth, η the ſeventh, θ the eighth. ι. κ. λ. μ μ. ν ν. ξ ξ. ο the cartilaginous ends of thoſe ribs.

π ρ σ τ The os pectoris. π the firſt and uppermoſt bone: ρ the ſecond which is in the middle: σ the third and loweſt, which belongs to the enſiform cartilage. τ the enſiform or pointed cartilage itſelf. We deſignedly paſs by the other particulars of this os pectoris, as well becauſe they do not relate to the preſent purpoſe, as becauſe they will be explained in our tables of the bones.

THE

Eleventh Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

IN the following Tables all the muſcles are exhibited ſeparate from the body, together with the bones to which they are affixed, or on which they lie contiguous, and ſuch other parts belonging to them as ſeemed neceſſary. They are all figured twice as large as in the preceding Tables, but in the ſame poſition, and in all other reſpects the ſame, ſo far as they are repreſented in the whole figures: but we muſt except a few of the muſcles, which required to be either drawn in a different poſition, or in their natural magnitude, of which we ſhall advertiſe the reader in its proper place.

The figures of the bones and other parts, being almoſt every where the out-lines only, are either ſufficiently intelligible of themſelves, or are ſo from the Tables of the ſkeleton and bones; for which reaſon we have added an explanation to only a few of them.

THE MUSCLES OF THE EYE-LIDS, CIRCUMFERENCE OF THE EYE AND EYE-BROW.

To theſe add the *Frontales* Fig. 7.

FIGURE

FIGURE I.

Repreſents the orbicular muſcle of the eye-lids with the corrugator of the eye-brow.

Becauſe the corrugator of the eye-brow is ſo conjoined with the orbicularis of the eye-lids that it may be reckoned a part of it, we have therefore repreſented them together.

a The corrugator of the eye-brow going to the upper and inner part of the orbicularis. From which corrugator is formed the outer margin of the orbicularis that paſſes along the leſs angle of the eye, and on the cheek.

b Its origin from the os frontis, betwixt the eye-brows and from the head of the eye-brow, by one broad origination.

The ſyſtematic connexion of this is ſeen in the head of Tab. II. a b. In the firſt muſcular table its origin does not appear, as being concealed under the frontalis.

c d e f g h i k l m The orbicularis muſcle of the eye-lids.

c The thicker part of the upper origin, by which it ſprings as well from the os frontis, immediately above the fore part of the os unguis, as from the adjacent part of the upper jaw-bone. But the origination itſelf could not be here repreſented, as one may eaſily conceive by conſulting Tab. I. of the Skeleton.

d The thicker part of the lower origin, by which it ariſes in the greater canthus from the lower part of the ligament n; but more eſpecially beneath from the edge of the bony orbit of the eye, which is formed by the naſal proceſs of the upper jaw-bone. But here alſo the origination from the bone could not be repreſented: ſee Tab. I. of the Skeleton.

e f g The thicker part occupying the circumference of the eye, that is the eye-brow e, a large part of the cheek f, and from the leſſer angle even to the temple g, round which angle the fibres are continued.

h The thinner part of the upper origin, by which it ſprings from the upper part of the ligament n.

i The thinner part of the lower origin, by which it ſprings from the lower part of the ligament n.

k l The thinner parts which are ſpread over the eye-lids, and which ariſe from the ligament n, by the originations h, i; from whence the fibres meet in acute angles beyond the leſſer canthus at m, where they croſs each other and are interwove.

The ſyſtematic connexion of this orbicularis is ſeen in the head of Tab. I. m m n o o p q r: where, in the eye-brow and near the greater canthus it is covered by the frontalis d e f g.

n The ligament which is extended tranſverſly from the upper jaw-bone even with the meeting of the eye-lids in the greater canthus.

The ſyſtematic connexion of this ligament is ſeen in the head of Tab. I. s. and of Tab. II. g. in the head.

o The os frontis. See Tab. I. of the Skeleton.

p The naſal proceſs of the upper jaw-bone. See Tab. I. of the Skeleton.

FIGURE II.

The Ciliaris muſcle.

a The part which occupies the margin of the upper eye-lid, ariſing at b from the ligament f.

c The part ſpread on the edge of the lower eye-lid, and ariſing alſo at d from the ligament f.

e The continuation of thoſe two parts round the leſſer canthus.

The ſyſtematic connexion of the ciliaris is ſeen in the head of Tab. II. h. h.

f The ligament which is extended tranſverſly according to the meeting of the eye-lids, from the upper jaw-bone to the ſaid meeting of the eye-lids in the greater canthus.

MUSCLES OF THE EXTERNAL EAR.

To theſe add the *Attollens* and *Retrahens*, Fig. 6; the *Attollens* and *Anterior*, Fig. 7.

FIGURE III.

Repreſents the inner ſide of the attollent, anterior, and retractive muſcle of the external ear.

a b c c The attollens.

a The thin tendinous beginning.

b The fleſhy part.

c c The inſertion of the tendinous end into the upper and fore part of the protuberance which is in the back of the cartilage of the outer ear, where it forms outwardly the cavity that lies betwixt the legs of the antihelix.

The anterior fibres incline more backward than the poſterior ones do forwards.

Add to this Fig. 6. g h, and Fig. 7. o p p q.

d The eminence or protuberance on the back of the cartilage of the outer ear, where it forms externally the cavity that lies betwixt the legs of the antihelix.

e f g The anterior muſcle.

e The tendinous beginning.

f The fleſhy part paſſing into a tendinous end that is inſerted at g into the back of that eminence of the helix which divides the concha, running thro' the ſame.

Add to this Fig. 7. r r s.

h i k l m

h i k l m The retrahent muſcles.

h The tendinous beginning of the upper retrahent.

i The tendinous beginning of the middle retrahent, which is here the largeſt and comes the furtheſt.

k The common fleſhy belly of the upper and middle retrahent, as I found it in the body from whence this figure was taken, and in ſome others. This fleſhy belly goes into a tendinous end, which is inſerted into the lower part of the back of the upper of thoſe cavities of the outer ear, into which the concha is divided by the eminence of the helix.

m The lower retrahent as it was found in this body, inſerted into the back of the lower of thoſe cavities of the outer ear, into which the concha is divided by the eminence of the helix running thro' it.

Add to theſe Fig. 6. i k l.

FIGURE IV.

Repreſents the greater and leſs helical muſcles, with the tragicus and antitragicus.

a b The greater helical muſcle ariſing by a tendinous origin from the upper part of the outer ſide of the acute proceſs æ, of the helix.

b The extremity here inſerted, as in ſome bodies, outwardly into the helix; and in others running along the ſurface of the elevator of the outer ear.

The ſyſtematic connexion of this muſcle is ſeen in Tab. I. Θ in the head: and in Tab IX. n in the head.

c The leſs helical muſcle aſcending near the helix d e, on the fore part of the outer ear, where the concha has an inciſure or notch, the one end being fixed below the ſaid notch, the other above it.

The ſyſtematic connexion is ſeen in the head of Tab. I. Ξ: and in Tab. IX. o in the head.

f The tragicus ariſing from the middle of the outer ſide of the cartilage of the concha g, near the tragus: and terminating in the upper part of the tragus and adjacent part of the concha.

The ſyſtematic connexion of the tragicus is ſeen in the head of Tab. I. Λ. and Tab. IX. p. in the head.

h k k The antitragicus, ariſing at h from the outer part of the cartilage of the antitragus i, where it is moſt protuberant: inſerted by a tendinous end k k into the edge of the concha l, in the angle of the notch that is in the cartilage of the outer ear behind the antitragus, at the bottom of the helix.

The ſyſtematic connexion is ſeen in the head of Tab. I. Π: and in Tab. IX. q in the head.

FIGURE

FIGURE V.

Tranſverſus auriculæ.

a b c c d The part belonging to the antihelix, the fibres of which part are longer than the reſt. a b its tendinous origin from the poſterior part of the back of the upper cavity of the concha. Inſerted by a tendinous extremity into a hollow on the back of the antihelix c c, and a ſmall part of it into the protuberant back of the ſcapha d.

a e e f The part belonging to the ſcapha, compoſed of ſhorter fibres, more looſely conjoined, and for a conſiderable length diveded as into ſeveral leſs diſtinct and almoſt tendinous muſcles. It ariſes from the upper part of the back of the ſuperior cavity of the concha a f: is inſerted into the lower part of the protuberance in the back of the ſcapha e e.

This, from its ſituation, could not be repreſented in the preceding tables.

MUSCLES OF THE SKIN OF THE HEAD, FOREHEAD, EYE-BROWS, AND BACK OF THE NOSE.

FIGURE VI.

Exhibits the occipitalis with the frontalis. The elevator and retrahents of the outer ear.

a b b c d e e. The occipitalis.

a The tendinous origin ſpringing from the bone of the occiput b b, and from that of the temple.

c The fleſhy part.

d e e The aponeuroſis in which the fleſh ends. e e the part of that aponeuroſis which is raiſed into a convexity by the ſubjacent temporal muſcle.

The ſyſtematic connexion is ſeen in the head of Tab. V. a b c d d: and in Tab. IX. a b c d in the head.

f The frontalis.

The ſyſtematic connexion of which is ſeen in the head of Tab. V. h.

See Fig. 7. a a b, &c.

g h The attollens auriculam, or elevator of the outer ear.

g The tendinous beginning of a rounding figure, gradually ſent off by thin ſcattered fibres from the aponeuroſis epicranii e e.

h The fleſhy part, paſſing under the outer ear.

Add to this Fig. 7. o p p q, and Fig. 3. a b c c.

The ſyſtematic connexion is ſeen in the head of Tab. V. at f g: and Tab. IX. g h in the head.

i k l The retrahent muſcles paſſing under the outer ear.

i The

i The ſuperior retrahent, and k the middle one, both ariſing tendinous from the occipital bone.

l The lower retrahent, ariſing alſo from the occipital bone.

Add to theſe Fig. 3. h. i k l. m.

The ſyſtematic connexion is in Tab. V. m. n. o in the head: and in Tab. IX. k. l. m in the head.

FIGURE VII.

The frontales and compreſſors of the noſe: with the elevator and anterior muſcle of the outer ear.

a a b b c d e f g h i k The frontales.

a a The aponeuroſis of the frontales where they are conjoined with the occipitals.

b b The fleſhy parts, beginning by oval tips and conjoined together into one on the upper and middle part of the forehead, c.

d The part running over the glabella and back of the noſe, on which at laſt it forms a thin aponeuroſis, that unites with a like thin expanſion from the compreſſors of the noſe, with which it is interwove at e, and continued into at f.

g The portion that joins the outer part of the beginning of the elevator of the upper lip and wing of the noſe, from whence it is cut off.

h The point that inſerts itſelf into the os frontis in the greater angle of the eye, a little above the ligament by which the greater canthus is tied to the upper jaw-bone, n Fig. 1.

i The place where the fibres bend inward towards the greater angle.

k The part that ends at the orbicularis of the eye-lids. There, in ſome bodies we obſerve fibres which join the corrugator near the temples, and therewith ſurround the leſſer canthus.

The ſyſtematic connexion is ſeen in the head of Tab. I. a a b b c d d e e f f g g h h i k l.

l m n n The compreſſors of the wings of the noſe.

l The origination, ſpringing from the outer part of the root of the wing of the noſe.

m The part where it is extenuated in form of a membrane; which joins with a like membranous extremity of the frontales f, is interwove therewith at e, and riſes with thin fibres over the back of the noſe, till thoſe fibres of the right and left ſide intermix at n n.

The ſyſtematic connexion is ſeen in the head of Tab. I. t u: where it is partly covered by the elevator of the upper lip and wing of the noſe, x y.

o p p q The elevator of the outer ear.

o The tendinous beginning by thin and ſcattered fibres, p p going off from the epicranius.

q The fleſhy part paſſing under the outer ear. Add to this Fig. 6. g h, and Fig. 3. a b c c.

The ſyſtematic connexion is ſeen in the head of Tab. I. Γ Δ,

r r s The

r r s The anterior muſcle of the outer ear.

r r The tendinous beginning, ſpringing by thin ſcattered fibres from the epicranius, almoſt in the middle above the os jugale.

s The fleſhy part going under the outer ear.

Add to this Fig. 3. e f g.

The ſyſtematic connexion is ſeen in the head of Tab. I. Z. Alſo in Tab. V. k in the head: and in Tab. IX. i in the head.

t The occipital part of the aponeuroſis.

The ſyſtematic connexion, of which is ſeen in Tab. I. a.

MUSCLES OF THE NOSE.

Here add the frontalis and compreſſor, Fig. 7. *and elevator of the upper lip and wing of the noſe*, Fig. 10.

FIGURE VIII.

The depreſſor of the wing of the noſe.

a a b The beginning by which it ariſes from the upper jaw-bone, outwardly where the gums cover the ſockets of the dentes inciſores a a, and canini b.

c c Its inſertion round the root of the wing of the noſe.

d Its inſertion under, or within, the noſtril, from the ſeptum naſi, where that coheres with the lip to the wing of the noſe.

The ſyſtematic connexion is ſeen in the head of Tab. III. l m; where it is in part covered by the orbicularis of the mouth, n. Alſo in Tab. II. F. in the head; where it is in a great meaſure covered by the naſalis of the upper lip G, and the orbicularis of the mouth H.

MUSCLES OF THE MOUTH AND LIPS, SOME OF WHICH BELONG TO THE GENA OR UPPER PART OF THE CHEEK; SOME TO THE BUCCA OR LOWER AND LATERAL PART OF THE CHEEK, AND OTHERS TO THE SPACES AT THE SIDES OF THE CHIN.

To theſe add the Latiſſimus colli, or quadratus genæ, Fig. 16.

FIGURE IX.

The depreſſors of the lower lip.

a a. a The origin from the outer part of the lower jaw, a little above its lower edge at the ſide of the chin.

b b The

b b The extremities which belong almoſt to the whole length of the lower lip, and terminating where it begins to be red.

c The part where they croſs each other.

Add to this Fig. 16. m f.

The ſyſtematic connexion is ſeen in the head of Tab. II. K K L M, and then in Tab. I. M M N in the head; in which laſt the greater part of this muſcle is covered by the depreſſors of the corners of the mouth Q Q, and the thin fibres L L which ſeem to come partly from the greater zygomatics, and in part from the depreſſors of the angles of the mouth.

d e Part of the orbicular muſcle of the mouth that is in the red margin of the lips. This is added to ſhew in what manner the depreſſors of the lower lip terminate in the ſaid orbicularis of the lower lip.

FIGURE X.

Repreſents the common elevator of the upper lip and wing of the noſe. The proper elevator of the upper lip. A portion joining the upper lip from the orbicular muſcle of the eye-lids. The greater and leſs zygomaticus. The depreſſor of the corner of the mouth. The naſalis of the upper lip. The orbicularis of the mouth.

Theſe muſcles are all figured together, becauſe they cohere ſo ſtrictly one to the other.

a b c The *elevator belonging to the upper lip and wing of the noſe.*

a The origin, from the naſal proceſs of the upper jaw-bone near the greater canthus of the eye, beginning tendinous.

b The extremity which runs thro' the upper lip near the ſide of the noſe, and being gradually extenuated over the fore part of the naſalis of the upper lip, at laſt vaniſhes in the ſaid lip. As it paſſes near the wing of the noſe, it uſually inſerts fibres into the upper part of the ſaid wing near the cheek; which fibres could not be here repreſented.

c The thin portion which it ſends thro' the fat to the wing of the noſe, towards which it gradually vaniſhes.

d The portion which joins the outer part of this muſcle from the frontalis, g Fig. 7. from whence it is cut off.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. w x y: where its beginning is partly covered by the orbicularis of the eye-lids, q.

e e f *The elevator of the upper lips.*

e e Its origin which is ſingle, from above the hole that is beneath the boney orbit of the eye, in the direction of the lower edge of the ſaid orbit.

f Its extremity which runs thro' the upper lip, over that part of the orbicularis of the mouth that is formed by the naſalis of the upper lip, and after being gradually extenuated, at length diſappears.

Its *ſyſtematic connexion* is ſeen in the head of Tab. I. z A: where its origin is covered by the orbicularis of the eye-lids, q m.

g h *The muſcular portion that joins the upper lip from the orbicularis of the eye-lids.*

g The part that is cut off from the ſaid orbicularis.

h Its end, which on one ſide ſoon joins to the elevator of the upper lip: and afterwards, on the other ſide, to the leſs zygomaticus, being extenuated with thoſe muſcles thro' the upper lip in which it ends.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. B.

i k The *leſs zygomaticus.*

i Its origin from the fore part of the outer ſide of os jugale, a little below the middle of that ſide.

k Its end extenuated, by which it runs thro' the upper lip, above the orbicularis of the mouth, like the preceding muſcles.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. C: where its beginning is covered by the orbicularis of the eye-lids, m.

l m n The *greater zygomaticus.*

l Its origin from the outer ſide of the os jugale, a little above its lower edge, in the place where its poſterior proceſs begins.

m The place where it joins and enters into the depreſſor of the corner of the mouth.

n Thin fibres which run firſt thro' the outſide of the depreſſor of the corner of the mouth, and then upon the depreſſor of the lower lip, from the corner of the mouth to the oppoſite ſide, thro' the adjacent part of the lower lip.

To this add Fig. 13. a b c d e.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. E F G: where its origin is partly cover'd by the orbicularis of the eye-lids, m.

o o m The *depreſſor of the corner of the mouth.*

o o The origin, from the outer part of the lower edge of the mandible, at the ſide of the chin.

m Its extremity by which it is continued outwardly to the greater zygomaticus.

Add to this Fig. 11. a b c, Fig. 12. e f g, and Fig. 13. f g h i.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. Q R R S.

p Small fibres that ſeem to come off from the depreſſor of the angle of the mouth, and mixing with the like fibres n, from the greater zygomaticus, they run thro' the outer ſide of the depreſſor of the lower lip.

The *ſyſtematic connexion* is ſeen in the head of Tab. I. L.

q r *The naſalis of the upper lip*, which may be reckoned an acceſſory head or portion of the orbicularis of the mouth.

q The beginning ariſing from the tip of the cartilage in the globe of the noſe, from whence, with its fellow, it forms the greater part of the ſaid globe, and from thence being continued along by the edge of the ſeptum of the noſe, it is extended out of its coverings down to the partition of the lip.

r The part where it joins the orbicularis of the mouth.

Add to this, Fig. 11. f.

The *ſyſtematic connexion* is ſeen in the head of Tab. II. G. And in Tab I. H in the head; in which laſt, as in the preſent figure, it is partly covered by the end of the elevator of the upper lip, and wing of the noſe y, the elevator of the upper lip A, the portion coming from the orbicularis of the eye-lids B, and the leſs zygomaticus C.

s t *The*

s t *The orbicular muſcle of the mouth.*

t The part which is in the red margin of the lips.

Add to this Fig. 11. g h ii, Fig. 12. h i, Fig. 13. m o, and Fig. 14. f g h i k l.

The *ſyſtematic connexion* is in Tab. I. I K K in the head: where, as here, it is covered in the lower lip by the greater zygomatics L L, and depreſſors of the lower lip L Q. L Q.

u The depreſſor of the lower lip, here covered in a great meaſure by the depreſſor of the corner of the mouth o o m: alſo by thin fibres p, detached in a manner from thence; and the excurſion of a thin portion of the greater zygomaticus n, as in the ſyſtematic connexion of this muſcle in the head of Tab. I. M N, cover'd Q L.

See Fig. 9. a a b c.

The right muſcles are eaſily underſtood from theſe left.

FIGURE XI.

Exhibits the greater zygomaticus. The depreſſor and elevator of the corner of the mouth. The naſalis of the upper lip. The orbicularis of the mouth.

k l m *The greater zygomaticus.*

l The outer part here cut off, which is continued into the depreſſor of the corner of the mouth, and runs thro' the lower lip. See Fig. 10. m o.

m A thin portion which runs behind the continuation of the depreſſor and elevator of the corner of the mouth, c Fig. 13.

a b *The depreſſor of the corner of the mouth.*

b The outer part here cut off, which continues itſelf to the greater zygomaticus. See Fig. 10. o o m.

c The part which goes into the naſalis of the upper lip, and from thence into the outer part of the orbicularis of the mouth, where it ſurrounds the upper lip at the corner of the mouth. This part of the depreſſor lies under the fibres of the greater zygomaticus n, Fig. 10. which is here removed.

Add to this Fig. 12. e f g: and Fig. 13. f g h i.

d d e *The elevator of the corner of the mouth*, being here, from its origin, a kind of biceps.

d d Its origin from the ſmall excavation in the fore part of the upper jaw, betwixt the firſt grinding teeth, and the hole that is below the boney orbit of the eye.

e The part by which it is continued to the depreſſor of the corner of the mouth.

Add to this Fig. 12. a b c d.

The ſyſtematic connexion is ſeen in the head of Tab. II. B C, and then in the head of Tab. I. D D; where it is covered by the outer part of the greater zygomaticus G, which continues itſelf to the depreſſor of the corner of the mouth, and runs thro' the lower lip: is alſo covered by the leſs zygomaticus C, with the portion from the orbicularis of the eye-lids joining the upper lip B, and the elevator of the upper lip z A.

f *The naſalis of the upper lip*, naked: which joins itſelf to the orbicularis of the mouth in the upper lip, and is continued to the depreſſor of the corner of the mouth, c.

See Fig. 10. q r.

The ſyſtematic connexion is ſeen in Tab. II. G in the head.

g h i i *The orbicularis of the mouth.*

g The part that is in the upper lip: and its continuation to the depreſſors of the corner of the mouth at c.

h The part which is in the lower lip.

i i The parts which are ſeated in the red margin of the lips.

Add here Fig. 12. h i, Fig. 13. m. o, and Fig. 14. f h i k l.

The *ſyſtematic connexion* is in the head of Tab. III. n o p p q r s. Alſo in Tab. II. H I I. in the head, where in the lower lip it is covered by the depreſſors of the ſaid lip K K M. And in Tab. I. in the head, I K K: where in the lower lip it is covered by the depreſſors of that lip L Q. L Q, and by the greater zygomatics L. L.

FIGURE XII.

Exhibits the elevator and depreſſor of the corner of the mouth: and the orbicularis of the mouth.

a b c d The *elevator of the corner of the mouth.*

a b The part where it is a kind of biceps at its origin.

c Its continuation to the inner part of the depreſſor of the corner of the mouth.

d The portion that joins the outer part of the orbicularis of the mouth, where that bends itſelf round the lower lip.

See Fig. 11. d d e.

e *The depreſſor of the corner of the mouth.*

f The place from whence the outer part of the depreſſor is cut off, which partly continues itſelf to the greater zygomaticus, m Fig. 10, and b Fig. 11; it alſo partly joins the orbicularis of the mouth, c Fig. 11.

g The inner part which is continued to the elevator of the corner of the mouth.

See Fig. 10. o o m.

h i *The orbicularis of the mouth.*

h The part which is in the lower lip; and which has a continuation to the elevator of the corner of the mouth d.

i The part which is in the lower lip.

See Fig. 11. g h i i.

k The naſalis of the upper lip. See Fig. 11. f.

l The place where the orbicularis of the mouth is cut off, and that part of it removed which covers the elevator of the corner of the mouth in Fig. 11.

m The greater zygomaticus, as in Fig. 11. k l m.

FIGURE

FIGURE XIII.

Repreſents the greater zygomaticus: the depreſſor of the corner of the mouth. The orbicularis of the mouth: and the buccinator.

a b c d e The greater zygomaticus.

b The place where the outer part is cut off, that continues itſelf to the depreſſor of the corner of the mouth, and runs thro' the lower lip: as in Fig. 11. l.

c A thin portion which runs behind the continuation of the depreſſor and elevator of the corner of the mouth: being the ſame with m in Fig. 11. From hence, at

d It joins chiefly the outer part of the buccinator, and with that goes to the orbicularis of the mouth, forming afterwards a part of the upper lip: while

e Another portion, is incurvated downwards, and continued to the inner part of the depreſſor of the corner of the mouth.

f g h i The depreſſor of the corner of the mouth.

g The place from whence the outer part is cut off, as in Fig. 12. f. which outer part is continued to the greater zygomaticus, m Fig. 10, and b Fig. 11.; and it partly joins the orbicularis of the mouth, c Fig. 11.

h The inner part cut off, which is continued to the elevator of the corner of the mouth, g Fig. 12.

i The portion which joins the inner part of the orbicularis of the mouth in the upper lip.

k k The buccinator. See Fig. 14. a, &c.

l The naſalis of the upper lip, k Fig. 12.

m Part of the orbicularis of the mouth which is in the upper lip, i Fig. 12.

n The place where it is cut off, as at l, in Fig. 12.

o Part of the orbicularis of the mouth that is in the lower lip, h Fig. 12.

p The place where it is cut off, and where it is outwardly joined by a part of the elevator of the corner of the mouth, d Fig. 12.

FIGURE XIV.

Exhibits the buccinator, and the orbicularis of the mouth.

a b c d e The buccinator.

b A portion which goes into that part of the orbicularis of the mouth that is in the upper lip.

c The portion which goes into that part of the orbicularis of the mouth that is in the lower lip.

d A muſcular portion of the buccinator that goes to the upper lip, and there joins the inner part of the orbicularis of the mouth.

e The place where the buccinator continues itſelf to the muſcular portion or appendix k l, that joins to the orbicularis of the mouth.

See Fig. 13. k k, and add Fig. 23. Tab. XII.

The *ſyſtematic connexion* of the buccinator is ſeen in the head of Tab. III. v w x y z. And then in Tab. II. z in the head; where part of it is covered by the elevator of the corner of the mouth B, and the depreſſor E; and part lies hid behind the maſſeter r. Then in Tab. I. T in the head; where it is alſo cover'd by the elevator of the corner of the mouth D, the depreſſor Q S, and lies concealed behind the maſſeter V; and is finally covered by the greater zygomaticus E G, and the latiſſimus colli or quadratus genæ δ γ γ.

f g h i The orbicularis of the mouth.

f The part which is in the upper lip.

g The place from which is cut off the depreſſor of the corner of the mouth which goes into the outer part of the orbicularis, where that ſurrounds the upper lip, near the corner of the mouth c, Fig. 11.

h Part of the orbicularis in the lower lip.

i The part that goes under the portion d, and joins the buccinator. But outwardly it receives part of the elevator of the corner of the mouth, d Fig. 12. which is here taken off.

k l The portion or appendix that joins the orbicularis of the mouth, ſpringing from the lower jaw.

k Its origin from the outer part of the lower jaw, beneath the protuberant ſocket of the canine tooth.

l The place where it alſo joins the buccinator.

Add here, Fig. 11. g h i i, and f, Fig. 12. h i d, and k, and Fig. 13. m o i and l.

The ſyſtematic connexion of the orbicularis is ſeen in Tab. III. t u in the head; where its firſt beginning is covered by the elevator of the chin β. And in Tab. II. where it lies betwixt the depreſſor of the lower lip K L, in the head, and part of the depreſſor of the corner of the mouth E, where it is alſo covered by them both, and what part appears naked, is in Tab. I. covered by the depreſſor of the corner of the mouth Q R R S in the head.

MUSCLES OF THE CHIN.

FIGURE XV.

Repreſents the elevators of the chin.

a The beginning ariſing from the fore part of the lower jaw, immediately beneath its upper edge from the ſocket of the lateral inciſive tooth, and extending from thence on one ſide to the ſocket of the middle inciſive, and on the other ſide to the ſocket of the canine tooth.

b The place where they are incurvated towards each other, partly continuing, and partly intermixing their fibres in the chin.

c The fibres which they intermix with the fat of the chin.

Their

Their ſyſtematic connexion is in Tab. III. $\beta\beta\gamma\delta$ in the head; where they are covered at their origin by the orbicularis of the mouth r. And in Tab. II. N O in the head; where the greater part lies under the depreſſor of the lower lip K K. Finally, in Tab. I. O P in the head; where alſo the greater part lies under the depreſſor of the lower lip M M.

MUSCLES OF THE MOUTH, LOWER LIP, ADJACENT CHEEK, EAR, AND SKIN OF THE NECK WHICH IS EXTENDED FROM BELOW THE CHEEK DOWN TO THE BREAST AND SHOULDER.

FIGURE XVI.

Repreſents the latiſſimus colli, with the depreſſor of the lower lip.

a a a, &c. The latiſſimus colli, or platyſma myoides.

a a a Its origin compoſed of thin, and in a great meaſure ſcattered faſciculi; by which it ariſes upon the breaſt below the clavicle, and upon the ſhoulder.

b b b Faſciculi or portions, which in ſome people join this muſcle from the ſide of the neck.

c c Scattered bundles of fibres, by which it ends and diſappears in the cheek.

d A portion that is ſtretched over the outer part of the depreſſor of the corner of the mouth, towards the ſaid corner.

e e A thin part that goes under the depreſſor of the corner of the mouth, with which it runs and adheres.

f A portion which it gives to the depreſſor of the lower lip.

g g The place where it is inſerted into the lower jaw beneath the origin of the depreſſor of the corner of the mouth.

h h The protuberance or riſing of the lower jaw, which it here paſſes over.

i k The protuberance of the ſternomaſtoideus i, and cleidomaſtoideus k, which it covers.

l l The protuberance of the clavicle.

The *ſyſtematic connexion* is ſeen in Tab. I. Ω, &c. in the neck.

m The depreſſor of the lower lip. See Fig. 9. a a b c.

n The depreſſor of the corner of the mouth here cut off.

MUSCLES OF THE UPPER EYE-LID AND GLOBE OF THE EYE.

FIGURE XVII.

Repreſents the ſyſtematic connexion of the muſcles which are placed in the boney cavity of the left eye, view'd from the upper part, with the tarſus or cartilaginous edge of the upper eye-lid, the globe of the eye, the optic nerve, and cartilage of the ring or pulley belonging to the upper oblique muſcle.

a The elevator of the upper eye-lid. See Fig. 21. From its origin it lies partly under the obliquus ſuperior. See Fig. 21.

b The tarſus of the upper eye-lid.

c The rectus attollens, a great part of which lies under the elevator of the eye-lid. See Fig. 28.

g The rectus deprimens. See Fig. 18. d d, and Fig. 19. i k.

f The rectus abducens. See Fig. 18. a b, and Fig. 19. a b c d. Its extremity or inſertion lies partly under the elevator of the upper eye-lid: See Fig. 18. at its origin it lies under the rectus attollens; and alſo under the optic nerve: See Fig. 18.

d The obliquus ſuperior with the cartilage of the ring, round which it bends its tendon. See Fig. 22. The tendon at its end lies under the elevator of the upper eye-lid and rectus attollens. See Fig. 22.

e The rectus adducens lying under the obliquus ſuperior. See Fig. 18. c. and Fig. 19. e f g h.

h Obliquus inferior. See Fig. 19. l l m.

i The globe of the eye. See Fig. 18. g.

k The optic nerve, cut off. See Fig. 18. i.

The beginning of the obliquus ſuperior, of the elevator of the upper eye-lid, and rectus attollens ſurround the optic nerve above; as that of the rectus abducens, deprimens, and adducens, ſurround it below, See Fig. 20.

FIGURE XVIII.

The primary or upper muſcles of the figure laſt preceding being taken away, (namely, the elevator and tarſus of the upper eye-lid, the rectus attollens, and the obliquus ſuperior, with the cartilage of its ring or pulley) the preſent figure exhibits the next order or appearance of them.

a b The rectus abducens. b the tendon inſerted into the ſclerotica. The thicker part of its origination lies under the optic nerve. See Fig. 19. c.

c The rectus abducens. The thicker head of which lies under the optic nerve. See Fig. 19. f.

d d The

d d The rectus deprimens. See Fig. 19. i k.

e f The obliquus inferior. See Fig. 19. l l m.

e The broad extremity of the ſaid obliquus attached to the ſclerotica on the outer ſide of the globe of the eye, betwixt the optic nerve and the middle ſphericity of the eye that comes betwixt the ſaid nerve and the cornea.

g h The globe of the eye. h the cornea.

i The optic nerve.

FIGURE XIX.

Exhibits the ſame muſcles as the eighteenth figure preceding, after the globe of the eye and optic nerve are taken away.

a The rectus abducens, c its principal head which is tendinous from the beginning. See Fig. 26. a. b the leſſer head which is tendinous. See Fig. 26. c. d the tendon in which it terminates. See Fig. 18. a b.

e The rectus adducens. f the principal head, the greater of which is tendinous. See Fig. 25. a. g the leſſer head which is tendinous. See Fig. 25. b. h the tendon in which it terminates. See Fig. 18. c.

i The rectus deprimens, which at its origin lies under the rectus abducens a, and the adducens e, k the tendon in which it terminates. See Fig. 18. d. d.

l l The obliquus inferior. m its tendinous origin. See Fig. 18. e f.

FIGURE XX.

Exhibits the ſyſtematic connexion of the muſcles belonging to the eighteenth figure, with their lower ſide turned up to the view.

a The rectus adducens. c the larger head, the greater part of which is tendinous. See Fig. 25. a. b the tendon in which it terminates. See Fig. 18. c, and Fig. 19. e.

d e f The rectus abducens. e the leſſer head which is tendinous. See Fig. 26. c. f the tendon in which it terminates. See Fig. 18. a, and Fig. 19. a.

g g The rectus deprimens. See Fig. 24. Fig. 18. d d, and Fig. 19. i k.

h The obliquus inferior. i the tendinous origin. Its extremity goes under the rectus abducens d. See Fig. 18. e f, and Fig. 19. l l m.

k l The globe of the eye. l the cornea.

m The optic nerve.

FIGURE XXI.

Exhibits the elevator of the upper eye-lid.

a a The tendinous origination, which adheres to the origin of the rectus attollens and together with that ariſes from the upper and next adjacent inner part of the foramen or hole in the multiform or ſphenoidal bone, thro' which the optic nerve enters the bony orbit or cavity of the eye; and below it alſo

coheres with the hard coat or vagina that contains the optic nerve, by ſmall tendinous portions, reſembling an aponeuroſis or tendinous excurſion.

b The fleſhy part.

c The aponeuroſis by which it terminates in the cartilaginous edge of the upper eye-lid, call'd the tarſus.

d The tarſus of the upper eye-lid.

e e The globe of the eye.

f f The optic nerve.

The ſyſtematic connexion is ſeen in Fig. 17. a; where its origin lies partly under the beginning of the obliquus ſuperior d.

Add to this alſo Fig. 27. a.

FIGURE XXII.

Exhibits the obliquus ſuperior, vel trochlearis.

a The tendinous origin by which it ſprings from the anterior, upper, and lateral part of the edge of the hole thro' which the optic nerve enters; it alſo coheres below with the vagina of the optic nerve by a ſort of tendinous excurſion.

b The fleſhy belly.

c The tendon which at d bends round the cartilage of the ring or pulley thro' which it paſſes: afterwards it runs back to the upper part of the globe, near which it grows broader and thinner as it advances, inſerting itſelf at laſt obliquely into the ſclerotica e, in the upper ſide of the outer and poſterior quarter of the globe, if we divide the ſame longitudinally and tranſverſly, thro' the middle of its upper ſide.

f The cartilage of a ſort of ring or pulley which is fixed to the os frontis under the eye-brow, near the inner corner of the eye; thro' which paſſes the tendon of the obliquus ſuperior.

The ſyſtematic connexion appears in Fig. 17. d; where the tendon runs firſt under the elevator of the upper eye-lid, and then under the rectus attollens. See Fig. 27. d.

g h The globe of the eye. h the cornea.

i The optic nerve.

FIGURE XXIII.

The rectus attollens.

a a The tendinous beginning which at firſt coheres with the elevator of the upper eye-lid, and together with that ariſes from the inner ſide of the upper part of the optical foramen: alſo from the edge of the multiform or ſphenoidal bone that is betwixt the optical hole and the hole that immediately follows it: beneath it alſo adheres to the covering of the optic nerve by ſmall tendinous portions like an aponeuroſis.

b The fleſhy belly.

c The

c The tendinous ſurface that makes the beginning of the tendon d, whoſe extremity is inſerted into the ſclerotica.

The ſyſtematic connexion is ſeen in Fig. 17. c; where it is partly covered by the elevator of the upper eye-lid a. Add to this Fig. 27. b c c.

e f The globe of the eye. f the cornea.

g The optic nerve.

FIGURE XXIV.

The rectus deprimens, with its lower ſide upwards.

a The tendinous origin, cohering in ſome meaſure with the covering of the optic nerve, and ariſing from the lower part of the bony portion that divides the optical foramen from that which follows immediately after it, and lies oppoſite the ſame bony cavity of the eye. I have alſo obſerved a ſmall portion ariſing from the ligament that goes from the edge of the lower part of the optical foramen, where it looks towards the hole that immediately follows after it, to the oppoſite edge of the ſaid foramen, where it is round, near the beginning of the ſlit in which its lower edge ends.

b The fleſhy belly.

c The tendinous ſurface by which the tendon d begins here, and has its end inſerted into the ſclerotica.

The ſyſtematic connexion is ſeen in Fig. 20. g g: and Fig. 19. i k, where at its origin and upper part it is covered by the rectus adducens e, and the abducens a. Add here Fig. 18. d d, Fig. 17. g, and Fig. 27. l.

e f The globe of the eye. f the cornea.

g The optic nerve.

FIGURE XXV.

A lateral view of the rectus adducens.

a The thick head which is tendinous and ariſes from the lower part of the optical hole, and the next adjacent ſide of it that is towards the noſe. It alſo coheres in ſome meaſure with the covering of the optic nerve.

b The ſlender head, which is alſo tendinous, and coheres at its origin with the elevator of the upper eye-lid and rectus attollens, alſo with them to the obliquus ſuperior; likewiſe with them it ariſes from the optical foramen, and coheres with the covering of the optic nerve.

c The fleſhy belly.

d The tendinous ſurface by which the tendon e begins here, having its end inſerted into the ſclerotica.

The ſyſtematic connexion is ſeen in Fig. 17. e; where its greater part lies under the obliquus ſuperior d, and at its origin under the elevator of the upper eye-lid. Next ſee Fig. 18. c, Fig. 19. e, and Fig. 20. a. Add alſo Fig. 27 e f g.

f g The globe of the eye. g the cornea.

FIGURE XXVI.

A lateral view of the rectus abducens.

a The thicker head, tendinous at its beginning, which ariſes, firſt with the rectus deprimens, from the lower part of the optical foramen near the outer ſide; and from thence it is continued in its lower part from the ligament i, and where that ligament ends, the reſt of its lower part (b, here cut off) ariſes from the neareſt part of the edge of the foramen that follows next after the optical hole. And this head coheres in ſome meaſure with the vagina of the optic nerve.

c The ſmaller tendinous head which at firſt coheres with the rectus attollens, ariſing with that from the optical foramen, and coheres with the vagina of that nerve.

d The fleſhy belly.

e The tendinous ſurface by which the tendon f here begins, its end being inſerted into the ſclerotica.

The ſyſtematic connection appears in Fig. 17. f. Fig. 18. a. Fig. 19. a. Fig. 20. d, to which add Fig. 27. h i k.

g h The globe of the eye. h the cornea.

i The ligament which ariſes from the ſide of the lower part of the foramen by which the optic nerve enters, where the optical hole is oppoſite to the other that follows next below it, and from thence it belongs to its oppoſite margin of that foramen where it is round, near the lower edge of the beginning of the ſlit in which it ends.

FIGURE XXVII.

Exhibits a perpendicular ſection of all the muſcles of the eye, with the elevator of the upper eye-lid, contained in the bony cavity of the eye, and view'd in the fore part. The fore parts of the recti, upper obliquus, and elevator of the eye-lid, being here cut off.

This figure differs from that in the IVth table, as I have alſo found it vary in other ſubjects.

a The elevator of the upper eye-lid. The origination of which could not be repreſented becauſe of the rectus attollens. See Fig. 21. a a.

The ſyſtematic connexion is ſeen in Tab. IV. a b b in the head; but with its fore part cut off, in Tab. II. c d in the head: which fore part lies behind the orbicularis of the eye-lids Tab. I. o in the head.

b The rectus attollens, ariſing at c c from the upper part of the optical hole, and from the edge of the multiform bone that lies in the middle betwixt the optical foramen, and the other foramen that immediately follows after it below. Add alſo Fig. 23. a a.

The ſyſtematic connexion is ſeen in Tab. IV. e f in the head; where the fore part is cut off: and in Tab. III. e in the head; which in Tab. II. lies behind the elevator of the upper eye-lid, c d in the head.

d The

d The obliquus ſuperior: whoſe origination (lying behind the beginnings of the rectus adducens, the attollens, and elevator of the eye-lid) could not be ſhewn, here repreſented. Add Fig. 22. a.

The ſyſtematic connexion is ſeen in Tab. IV. c d in the head, where the fore part is cut off: and in Tab. III. c d in the head; which there goes behind the rectus attollens e, and the part that here appears naked, lies behind the elevator of the upper eye-lid, Tab. II. c d in the head.

e f g The rectus adducens, f the ſmaller head ariſing from the upper part of the external ſide of the optical foramen, where at its origin it coheres with the rectus attollens elevator of the upper eye-lid, and the obliquus ſuperior. Add Fig. 19. g. and Fig. 25. b.

g The thicker head, ariſing from the lower part of the optical foramen and from the neareſt ſide of it next the noſe. Add here Fig. 19. f. and Fig. 25. a.

Betwixt the thicker head and the optic nerve paſſes a ſmall artery from the internal carotid.

The ſyſtematic connexion is ſeen in the head of Tab. IV. g h, where the fore part is cut off: and in Tab. III. f. in the head.

h i k The rectus abducens, i the ſmaller head ariſing from the edge of the multiform bone that lies betwixt the optical foramen and that which follows juſt below it: and by this head it coheres with the beginning of the rectus attollens. Add Fig. 19. b, and Fig. 26. c.

k The thicker head from the lower part of the optical foramen, near the external ſide. Add here Fig. 19. c, and Fig. 26. a b.

Betwixt theſe heads the trunk of the ſixth pair of nerves of the brain enters and paſſes along the bony orbit or cavity of the eye, as does alſo the trunk of the third pair, and the branch it gives to the rectus attollens.

The ſyſtematic connexion appears in Tab. IV. i l in the head; where its fore part is cut off, and in Tab. III. g in the head.

l The rectus deprimens; whoſe origination could not be here ſhewn, as it lies under the beginnings of the adducens and abducens g k. See Fig. 24. a.

The ſyſtematic connexion appears in Tab. IV. m n in the head; where the fore part is cut off: and in Tab. III. h in the head.

m n o p The obliquus inferior. m its outer part, n its inner part. o its tendinous beginning, ariſing at the bottom of the orbit of the eye, near its edge from the upper jaw-bone, betwixt the future, proper to that bone in this place, and the os unguis. Add here Fig. 19. l l m.

p The end cut off from the globe.

The ſyſtematic connexion is ſeen in Tab. IV. o p q in the head: and in Tab. III. i k in the head; where its end goes under the rectus abducens g.

q The foramen by which the optic nerve enters.

r The foramen that follows immediately after the optical hole.

MUSCLES OF THE MALLEUS, STAPES AND MEMBRANE OF THE TYMPANUM.

Theſe could not be repreſented in any of the views of the preceding tables. In this table, on account of their ſmallneſs, they are exhibited in their natural magnitude.

FIGURE XXVIII.

Repreſents the muſcles of the internal ear, together with the ſmall bones of hearing, and the temporal bone, in their natural poſitions; alſo part of the multiform or ſphenoidal bone.

a The laxator tympani, ariſing from the upper part of the edge of the tympanum, near the end of the auditory paſſage, from the place to which the membrane of the tympanum adheres. It is inſerted into the handle of the malleus, near the root of its ſhorter proceſs. See Fig. 30.

b c d The externus mallei.

b The origination from the outer part of the acute proceſs, which the laſt angle of the multiform bone ſends out betwixt the os ſquamoſum and petroſum.

c The fleſhy belly a little protuberant.

d The tendon which enters the ſlit s that is left at the end of the ſuture of the os ſquamoſum and petroſum; and afterwards it goes on thro' the ſame ſinus as holds the longeſt and ſlendereſt leg of the malleus, to that part of the bony extremity which contains the auditory paſſage, and affixes itſelf to the whole length of that proceſs. See Fig. 31.

Juſt above e appears the tendon of the tenſor tympani coming out of the ſmall opening of the bony channel in which it is contained. See Fig. 29. d: and Fig. 32.

Juſt below i is the tendon of the ſtapedius (paſſing out of the little opening in the neck of the cavity in which the ſtapedius itſelf is contained) running to the ſtapes. See Fig. 29. f. and Fig. 34.

k The tympanum.

n The bony channel that contains the tenſor tympani. See Fig. 29. s.

o The neck of the little cavity that contains the ſtapedius.

p Part of the auditory paſſage left entire, which lies in the os ſquamoſum and mammillare.

q The place from whence part of the auditory canal is cut off, and which is formed by the os petroſum: r the place where the ſame is cut off from the os ſquamoſum.

s A cleft or ſlit left at the end of the meeting or union of the os ſquamoſum and petroſum, which meeting or commiſſure is here covered by the external muſcle of the malleus; and by this cleft enters the externus mallei.

Above the ſaid cleft s, in which the tendon d is conſpicuous, in order to make it ſo conſpicuous, that ſinus is cut and laid open longitudinally which is contained in that part of the bony extremity that holds the auditory paſſage; that

that ſinus thro' which the malleus extends its longeſt and ſlendereſt proceſs, and along which the tendon paſſes that belongs to the externus mallei, and is inſerted into the ſaid proceſs.

t The os ſquamoſum.

u u The os petroſum.

v Part of the multiform bone. W the ſharp proceſs which the laſt angle of the multiform bone ſends out betwixt the os ſquamoſum and petroſum.

x The foramen, out of which paſſes the third branch of the fifth pair of nerves of the brain.

The malleus, incus, ſtapes, feneſtra, and aquaduct, are pointed out in the figure next following.

FIGURE XXIX.

Repreſents the muſcles call'd tenſor tympani and ſtapedius, with the ſmall bones of hearing, and the temporal bone in their proper ſituations; alſo part of the ſoft portion of the Euſtachian tube. The laxator tympani and externus mallei being here taken off.

a b c d The tenſor tympani.

a The very thin tendinous beginning, ariſing at b from the upper part of the Euſtachian tube, where that tube looks towards the baſis of the ſkull, and is of a cartilaginous nature, hard by the hole of the multiform bone that admits arteries to the dura mater, under the ſcale of the multiform bone which is connected to the os petroſum at the inner ſide of the ſaid hole.

c The fleſhy part where that paſſes thro' the beginning of the bony canal which is but half a canal; from whence it goes on thro' the ſaid canal, and its tendon being got out of the opening of the ſaid canal near d, bends itſelf round the ſaid opening, and then goes to its inſertion into the handle of the malleus, below its ſlendereſt proceſs, where the ſaid handle lies towards the bottom of the tympanum oppoſite the membrane. See Fig. 32. and 33.

e f The ſtapedius.

e The belly lying in the little cavity of the os petroſum, which is fixed in the tympanum below the lower part of the Falloppian aquaduct, and ariſing from thence all the way from its origination. f the tendon which ariſing in the cavity, paſſes afterwards out of its round mouth or opening, and ſo ſoon as it is got out bends itſelf, and then goes ſtraight to the back part of the head of the ſtapes into which it inſerts itſelf. Add here Fig. 28. i: and ſee Fig. 34.

g The incus.

h The malleus. See Fig. 32. d e f g.

i The ſtapes, with its baſis reſting on the oval feneſtra or aperture. See Fig. 34. d e.

k The aquaduct of Falloppius; part of which alſo appears betwixt the malleus and incus.

l The fore ſide of the little cavern or cavity which contains the ſtapedius, projecting within the tympanum longitudinally from the bottom of the cavern to its opening that is cut off.

m Part

m Part of the os petroſum cut off, where the auditory paſſage here ends. It is cut off down to the poſterior part of the little cavern that contains the ſtapedius; and this part of the bone is thick.

Therefore betwixt l and m the ſmall cavern is laid open by cutting out the intermediate bone, that the ſtapedius might thus be entirely view'd.

n The feneſtra rotunda, or round opening.

o Part of the os petroſum cut off down to the bony part of the Euſtachian tube.

p The os ſquamoſum cut off. See Fig. 28.

All that is bony betwixt the two parts o and p is here removed that the canal r r s, and the muſcle c, might be entirely viewed.

q The place from whence the ſcale of the os petroſum is cut off, which meeting with the os ſquamoſum, divides the tympanum in this place from the cavity of the ſkull.

r r s The canalis oſſeus, here at its origin but half a canal r r, afterwards compleat or entire s, (but in ſome bodies it is all the way but half a canal) which is fitted to receive the tenſor of the tympanum partly above the bony part of the Euſtachian tube, and partly in the upper and fore part of the tympanum over againſt the membrane of the tympanum.

t u The bony part of the Euſtachian tube. u its opening into the tympanum.

v v w Part of the Euſtachian tube which is very much of the nature of a cartilage. x x x x the places from whence the membranous part is cut off. y a portion of the membranous part that is cut off in a ſtraight courſe to the end of the tube. v v the external parts of the portion which is of a cartilaginous nature: w the inner ſide thereof, forming a large concavity of the tube.

z Part of the os petroſum belonging to the cavity of the ſkull.

α The concavity of the tympanum.

β β The place from whence part of the auditory paſſage is cut off, formed by the os petroſum, as at q q in Fig. 28.

γ That part of the auditory paſſage cut off which is a continuation of the os ſquamoſum, as at r in Fig. 28.

δ Part of the auditory paſſage entire, which is contained in the os ſquamoſum and mammillare.

ε The os petroſum.

FIGURE XXX.

The Laxator tympani.

a The laxator tympani inſerted into the handle of the malleus near the root of its ſhorter proceſs.

The ſyſtematic connexion is in Fig. 28. a, where the poſition is the ſame, and natural.

Concerning the malleus, ſee Fig. 32. d e f g.

FIGURE

FIGURE XXXI.

The externus mallei.

a The fleſhy belly.

b The tendon, inſerted into the whole length of the longeſt and ſlendereſt proceſs of the malleus.

The ſyſtematic connexion is in Fig. 28. b c d, where the poſition is the ſame as here.

Concerning the malleus, ſee Fig. 32. d e f g.

FIGURE XXXII.

The tenſor tympani.

a The tendinous beginning.

b The belly.

c The tendon.

The ſyſtematic connexion is in Fig. 29. a b c d, where the poſition is the ſame. Add Fig. 33.

d e f g The malleus. d the head. e the ſlendereſt and longeſt proceſs. f the ſhorter proceſs. g the handle.

FIGURE XXXIII.

The tenſor tympani, a poſterior or inner view of it. See Fig. 32.

a The tendinous beginning.

b The belly.

c The tendon inſerted at d into the handle of the malleus below its very ſlender proceſs, where the handle lies towards the bottom of the tympanum oppoſite the membrane.

Concerning the malleus, ſee Fig. 32. d e g.

FIGURE XXXIV.

The ſtapedius.

a The belly.

b The tendon, inſerted at c into the head of the ſtapes, where it inclines backward.

The ſyſtematic connexion is in Fig. 28. i, and Fig. 29. e f, the poſition is the ſame in both.

d The little head of the ſtapes from whence two legs go on to the baſis e.

MUSCLES OF THE OS HYOIDES.

FIGURE XXXV.

The coracohyoideus.

a a The origin from the extreme edge of the upper margin of the ſcapula, near the half moon or notch that is at the root of the coracoide proceſs, from whence it bends itſelf at b.

c The firſt belly.

d The middle tendon.

e The ſecond belly.

f Its inſertion into the lower and fore part of the baſis of the os hyoides, near its horn, by a tendinous extremity.

The ſyſtematic connexion is in Tab. II. α α β in the neck; where it is covered or concealed by the ſternocleidomaſtoideus η θ ι κ, and by the ſubclavius σ at its origin behind the clavicle, and the ſerratus magnus Ψ. And thoſe parts of it which appear naked in Tab. II. lie under the latiſſimus colli Tab. I. Ω in the neck. It lies alſo partly under the cucullaris.

FIGURE XXXVI.

The geniohyoideus view'd from below.

a The tendinous beginning by which it ariſes from the tubercle or rough eminence b, that is fixed on the inner ſide of the lower jaw oppoſite the chin.

c The fleſhy body.

d e The end inſerted into the excavation d, which is the upper and fore part of the baſis of the os hyoides, near the middle of the ſaid baſis; and is continued to the remaining part of the baſis from the excavation to the horn, and neareſt part of the horn itſelf e. 'Tis thicker at its inſertion into the excavation, but thinner where it is inſerted into the reſt of the baſis and horn.

The ſyſtematic connexion is exhibited laterally in Tab. X. Fig. 2. r s; where its extremity is ſeated behind the baſiogloſſus o. In Fig. 1. of that table it is not to be ſeen, as it lies behind the mylohyoideus d.

f f The under ſide of the lower jaw: the ſame as we have repreſented it in the tables of the bones.

g h h i i k k The lower part of the os hyoides. g h h the baſis; g its anterior part, h h the poſterior part. i i the horns. k k the ſmall grain-like bones.

FIGURE

FIGURE XXXVII.

The ſtylohyoideus.

a The ſlender tendon by which it begins, and which ariſes from the back part of the ſtyloide proceſs of the temporal bone, hard by the ſmall bone, which being joined to that proceſs is in many people moveable.

b The fleſhy belly.

c The tendon, inſerted at d into the anterior and lower part of the baſis of the os hyoides, where the horn is joined to it.

e The ſlit in the fleſhy part and in the tendon thro' which paſſes the digaſtric of the lower jaw: and above that ſlit is a ſinus impreſſed by the ſaid adjacent digaſtric muſcle.

The ſyſtematic connexion is in Tab. X. Fig. 1. e f; where it is in part covered by the digaſtric of the mandible g i. Then in Tab. IX. λ in the head; where it is in part covered by the latiſſimus colli μ, and in part by the ſternocleidomaſtoideus ϱ. The fore part of it, in Tab. II. R in the neck.

g h i The os hyoides. g the baſis, h the horn, i the ſmall grain-like bone.

k The maſtoide proceſs cut off near the root of the ſtyloide proceſs.

l l The ſtyloide proceſs of the temporal bone.

FIGURE XXXVIII.

The mylohyoideus viewed from below.

a a The beginning for the moſt part tendinous, ariſing from the eminence b that goes thro' the length of the jaw, from the innermoſt grinding tooth to the ſymphyſis of the lower jaw, being extended from behind obliquely forward towards the chin.

c The place where the right and left join together and are continued in one fleſhy part. c d the tendinous line formed by the meeting of the right and left. e the aponeuroſis.

f The inſertion of that aponeuroſis into the anterior and lower part of the baſis of the os hyoides.

g The convexity that is formed about the geniohyoideus.

The ſyſtematic connexion is ſhewn laterally in Tab. X. Fig. 1. d; where it covers part of the digaſtric of the lower jaw h i. In Fig. IX. no part of it appears being covered over by the latiſſimus colli, μ in the neck. The fore part is ſeen in Tab. III. ν in the neck, and Tab. II. Q in the neck.

Concerning the lower jaw and os hyoides, ſee Fig. 36.

FIGURE XXXIX.

The ſternokyoideus.

a b c d The tendinous beginning ariſing at a from the inner part of the breaſt-bone, and particularly from that protuberant part of its margin which ſuſtains the clavicle near the cartilage of the firſt rib: it continues alſo to ariſe from the upper and poſterior part of the end of that cartilage b, and the ligament c, by which the clavicle is tied to that cartilage, likewiſe from the neareſt poſterior and lower part of the head of the clavicle d.

e The tendinous end, inſerted into the lower part of the baſis of the os hyoides near its middle.

The ſyſtematic connexion is ſeen in Tab. II. $\gamma\gamma\delta$ in the neck, where it is in part covered by the ſternomaſtoideus $\eta\theta$, alſo by the clavicle, ſternum and cartilage of the firſt rib. Then in Tab. I. ι in the neck, where the latiſſimus colli Ω is ſpread over the greateſt part of it.

f f g h The ſternum, cut off f f, g the cartilage of the firſt rib, h the clavicle; that thus the beginning of the ſternohyoideus behind it might appear to view.

MUSCLES OF THE TONGUE.

FIGURE XL.

The ſtyloglooſſus. Ceratogloſſus and baſiogloſſus.

a b c d The ſtylogloſſus.

a Its origin from the anterior, inner, and almoſt extreme part of the ſtyloide proceſs which is moveable in younger ſubjects.

b The place where it firſt joins the tongue near the end of the ceratogloſſus, by which it goes along, is extended near to the end of the baſiogloſſus, and runs on further forwards to the tip of the tongue c.

d The place where it is incurvated a little downward, and continues itſelf to the ceratogloſſus.

Add here Fig. 43. e f g.

The ſyſtematic connexion is in Tab. X. Fig. 2. k l m; where at its origin it lies concealed behind the maſtoide proceſs of the temporal bone. Then in Fig. 1. juſt above k; where the greater part is covered by the mylohyoideus d, the ſtylohyoideus e, and the digaſtric of the lower jaw g. And laſtly, in Tab. IX. betwixt $\varkappa$ and λ in the neck; where it is covered by the ſtylohyoideus λ.

e e f The ceratogloſſus.

e e Its

e e Its origin from the outer part of the lower edge of the horn of the os hyoides, from the extremity thereof, almoſt to that part which is connected with its baſis.

f The part that belongs to the tongue.

d The place where it is continued to the ſtylogloſſus.

Add here Fig. 43. h.

The ſyſtematic connexion is ſeen in Tab. X. Fig. 2. n, and in Fig. 1. m, where it is in part covered by the digaſtric of the lower jaw g i, in part by the ſtylohyoideus e. In Tab. IX. it lies concealed behind the ſternomaſtoideus e in the neck. The anterior view of it is in Tab. III. ι in the neck; and in Tab. II. T in the neck.

g h i The baſiogloſſus.

g h Its origin, g from the lower and fore part of the baſis of the os hyoides near its horn; and from the next adjacent and fore part of the horn itſelf h.

i The part that joins the tongue.

Add here Fig. 43. h.

The ſyſtematic connexion is in Tab. X. Fig. 2. o, where part of its origin that ſprings from the os hyoides is covered by the geniohyoideus r. Then in Fig. 1. k l; where it is in part covered by the mylohyoideus d, and ſtylohyoideus e f, and digaſtric of the lower jaw i. Laſtly, in Tab. IX. juſt below the ſtylogloſſus, which lies betwixt κ and λ in the neck.

k Part of the lingualis. See Fig. 41. e.

l m The tongue. l the part contained in the mouth. m the part incurvated in the fauces. See Tab. X. Fig. 5. h i.

n The maſtoide proceſs here cut off, as in Fig. 37. k.

o The ſtyloide proceſs of the temporal bone.

The os hyoides is the ſame here as in Fig. 37.

FIGURE XLI.

The chondrogloſſus, geniogloſſus, and lingualis.

a b The chondrogloſſus.

a The origin from the upper part of the beginning of the ſmall grain-like bone of the os hyoides.

b The place where it intermixes with the geniogloſſus, and then goes into the tongue near the beginning of the lingualis.

The ſyſtematic connexion is in Tab. X. Fig. 4. t, and in Fig. 3. juſt above π; where its greater part is covered by the fibres of the geniogloſſus, which are incurvated by the ſide of the pharynx l: and what there appears naked, is in Fig. 2. concealed behind the ceratogloſſus o.

c d The geniogloſſus.

d The tendinous beginning, by which it ariſes immediately above the geniohyoideus from the rough eminence k, that is fixed in the inner ſide of the lower jaw at its ſymphyſis. From thence it goes to the tongue.

But

But here we have removed thoſe fibres which inſerts it into the ſmall grain-like bone of the os hyoides; as alſo we have removed thoſe thin fibres which are incurvated laterally thro' the membrane of the pharynx.

Add here Fig. 42, and Fig. 43, k l l l m n o p.

The ſyſtematic connexion is in Tab. X. Fig. 5. o p q, and then in Fig. 4. s ſ, Fig. 3. i k, and Fig. 2. q; where part of it is covered by the baſiogloſſus o: and what there appears naked, in Fig. 1. lies behind the mylohyoideus d.

e The lingualis. See Fig. 43. a b c d.

The ſyſtematic connexion is in Tab. X. Fig. 5. n, and in Fig. 4. r. Fig. 3. h. And then in Fig. 2. p; where it is partly covered by the baſiogloſſus o.

f The ſtylogloſſus. See Fig. 40. a b c.

The ceratogloſſus and baſiogloſſus are here cut off betwixt the ſtylogloſſus f, the chondrogloſſus a b, and the lingualis e. See Fig. 40. f. i.

g The epiglottis.

h The inner ſide of the lower jaw. i the part which is cut thro', as in Tab. X. Fig. 2. t.

k The rough tubercle or eminence in the inner ſide of the lower jaw, at its ſymphyſis.

Concerning the tongue, ſee Fig. 40. l m. And for the os hyoides, ſee Fig. 37. g h i.

FIGURE XLII.

The geniogloſſus viewed from below.

a The tendinous beginning by which it ariſes immediately above the geniohyoideus from the rough eminence b, that is ſeated on the inner ſide of the lower jaw at its ſymphyſis.

c d d d e A thin tendinous part which at d d belongs to the baſis of the os hyoides and inſerts itſelf at e into the ſmall grain-like bone.

f Thin fibres here cut off which join the inner part of the ceratogloſſus.

g Thoſe fibres cut off which run thro' the ſide of the pharynx, and which are continued into the upper conſtrictor of the pharynx.

Add here Fig. 41. c d, and Fig. 43. k l l l m n o p.

The lower jaw and os hyoides may be known from Fig. 36.

FIGURE XLIII.

Repreſents the tongue ſtretched out longitudinally with its lower ſide turned up to ſhew the lingualis, geniogloſſi, and ends of the ſtygloſſi, ceratogloſſi, and baſiogloſſi.

a b c d The lingualis.

a b Two beginnings by which it proceeds into the tongue at its root, betwixt the fibres of the geniogloſſi: the firſt of them a, betwixt that part of the geniogloſſus which is incurvated latterally and joins the ceratogloſſus, and the part that there inſerts itſelf into the tongue.

c The

c The place where it joins with the ſtylogloſſus, and with that runs afterwards to the tip of the tongue d.

See Fig. 41. e.

e f g The ſtylogloſſus.

e The place where it is cut off.

f The place where it joins with the lingualis and with that runs to the tip of the tongue g.

See Fig. 40. e e f. g h i.

k l l l m n o p The geniogloſſus, which becauſe it is cut off from its origin, and the tongue ſtretched out longitudinally, has here changed its figure: as will appear if you conſult Fig. 41. c d.

k The origination cut from the lower jaw.

l l l Here it belongs to the tongue near the lingualis.

m Fibres which join the inner part of the ceratogloſſus and with that go to the tongue.

n Fibres which are incurvated thro' the ſide of the pharynx; ſome of which go to the upper conſtrictor of the pharynx.

o A thin tendinous part belonging to the baſis of the os hyoides. p a portion inſerted into the upper part of the beginning of the ſmall grain-like bone of the os hyoides.

See Fig. 41. c d.

q The tongue.

Concerning the os hyoides, ſee Fig. 36.

MUSCLES OF THE LARYNX.

Add here the ſtylopharyngeus Fig. 27. 28. and 30. Tab. XII.

FIGURE XLIV.

The ſternothyroideus.

a b c The broad origination from the internal amplitude of the breaſt-bone, oppoſite the lower part of the cartilage of the firſt rib; and from the edge of the ſame bone near the ſame part of the ſaid cartilage: and the portion b c from the inner part of the termination of the ſaid cartilage.

d e The other narrower origination from the upper and poſterior part d of the middle of the cartilage belonging to the firſt rib, and from the adjacent ligament e, by which the clavicle is tied to that cartilage.

f g The broad and thin part of its termination, which is tendious at g, and inſerted into the external part of the ſide of the thyroide cartilage, firſt a little above its lower edge in the fore part, and from thence obliquely upwards and backward towards the tubercle which that cartilage has in the fore part of its upper proceſs; in which place the thyroide cartilage is protuberant in ſome people.

h The

h The narrower and thicker part of the end, inſerted by a tendinous extremity i, into the fore-mentioned tubercle k.

The ſyſtematic connexion is in Tab. III. π π σ ς ϱ in the neck; where its origin lies behind the clavicle, ſternum, and cartilage of the firſt rib. Then in Tab. II. ε ε ε in the neck; where it is covered by the ſternohyoideus γ γ, coracohyoideus α β, and ſternocleidomaſtoideus η ϰ: and what part of it there appears naked above and below the ſternomaſtoideus, the ſame lies behind the latiſſimus colli, Tab. I. Ω in the neck. Then in Tab. I. υ in the neck.

l m m n The thyreoide cartilage. m m the upper proceſſes. n the lower proceſs.

o The cricoide or annular cartilage.

p p p The ſternum cut off, with the cartilage of the firſt rib q r s; that thus the origin of this muſcle, which is ſeated behind it, might appear to view.

FIGURE XLV.

The hyothyreoideus.

a b The origination, a from the lower and inner part of the baſis of the os hyoides near its horn; and from almoſt half of the horn itſelf that is next the baſis b.

c d e Its inſertion, c d into the lower part of the external ſide of the thyreoide cartilage, juſt above the inſertion of the broader end of the ſternothyreoideus, f g Fig. 44: and before the inſertion of the part d e into the external and lower edge of the thyreoide cartilage, near the middle of its fore part.

The ſyſtematic connexion is in Tab. III. ϛ in the neck. Then in Tab. II. Y in the neck; where the greater part is covered by the coracohyoideus α β, and the ſternohyoideus γ δ: and what part there appears naked, lies behind the latiſſimus colli, Tab. I. Ω in the neck. It is ſeen laterally in Tab. X. Fig. 1. q.

FIGURE XLVI.

The cricothyreoidus, a front view.

This muſcle conſiſts of two parts, the one anterior, the other poſterior.

a b The anterior part which ariſes at a from the upper edge of the annular cartilage that belongs to its anterior and lateral part: b its inſertion into the external part of the lower margin of the thyreoide cartilage, near its middle.

c d d The poſterior part, which ariſes at c from the external part of the annular cartilage, from the middle of it length-wiſe, and almoſt from its whole breadth: at its end d d, in its outer part it joins to the lower conſtrictor of the pharynx.

Add here Fig. 47. and 48.

The ſyſtematic connexion is in Tab. III. o in the neck, where a large part of it is covered by the ſternothyreoideus π σ: and what there appears naked, in Tab. II. lies behind the ſternohyoideus, γ in the neck.

FIGURE

FIGURE XLVII.

The cricothyreoideus, a lateral view.

a b The anterior part, which here aroſe at a from the external and fore ſide of the annular cartilage even to its lower edge. b its inſertion into the outer part of the lower edge of the thyreoide cartilage near the middle of its fore part.

c d d The poſterior part, which in the end of its outer part d d joins to the lower conſtrictor of the pharynx, whence it is here cut off.

Add here Fig. 48. and 46.

The ſyſtematic connexion is in Tab. X. Fig. 1. v w x y.

e The thyreoide cartilage.

f The cricoide cartilage.

FIGURE XLVIII.

The poſterior part of the cricothyreoideus, a lateral view.

a a Its origin from the external part of the annular cartilage, for almoſt the whole breadth or height of its middle part length-wiſe.

b The place from whence its outer part is cut off, which joins to the lower conſtrictor of the pharynx; under which it is inſerted into the thyreoide cartilage, occupying the whole lunar edge c c c, that is formed as well by the lower proceſs of the thyreoide cartilage, as by the lower margin itſelf of that cartilage, from the ſaid proceſs even to the tubercle which projects in the middle of its edge longitudinally.

The part of this muſcle that belongs to the inner margin of the thyreoide cartilage could not be repreſented in this figure.

Add here Fig. 47.

THE

Twelfth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE GLOTTIS AND EPIGLOTTIS.

FIGURE I.

Arytaenoideus tranſverſus, its poſterior ſide.

a a Its inſertion into the inner edge of the back-part of the left arytenoide cartilage, above its baſis.

b b A like inſertion of it into the right arytenoide cartilage.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 13. θθθθ; where it is partly covered by the arytenoidei obliqui *n. n.* Alſo in Fig. 12. it is covered by the membrane of the pharynx v. Laterally in Fig. 6. o, of the ſame table it is in part covered by the obliqui l. m m.

The cartilages of the larynx as well in this as in the next figure may be known from Fig. 14. Tab. X.

FIGURE II.

The arytaenoideus obliquus, and cricoarytaenoideus poſticus, the poſterior view or ſide of them.

a b c The *arytaenoideus obliquus.*

a Its origin from the upper and outer part of the poſterior ſide of the baſis of the arytaenoide cartilage.

b The lower part of its extremity that is continued to the thyreoarytaenoideus.

c The upper part of its extremity that goes to the epiglottis.

Before it ends in theſe extremities it bends itſelf forward and round the back part of the tip of the arytenoide cartilage, and round the additional cartilage or appendix of the ſaid tip.

Add here Fig. 3. a b c d.

The

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 13. *n*; where the right obliquus croſſes the left. But in the 12th figure they are covered by the membrane of the pharynx v.

d d d e The *cricoarytaenoideus poſticus.*

d d d Its origin from the cricoide cartilage, whoſe hollow ſurface it occupies, which it has in the back part and ſide of the middle eminence.

e The extremity inſerted into the end of the protuberance that riſes up in the back part of the outer ſide of the baſis of the arytenoide cartilage.

Add here Fig 4. f f g.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 13. i; in part going under the thyreoide cartilage *μ*. in Fig. 12. it is covered by the membrane of the pharynx v, except a ſmall part below *κ*; which is alſo to be ſeen in Fig. 11. A, and in Fig. 10. *η*, and in Fig. 9. I.

FIGURE III.

The arytaenoideus obliquus, thyreoarytaenoideus, and thyreoepiglotticus, greater and leſs view'd laterally.

a b c d *Arytaenoideus obliquus.*

b The lower part of its end, which is continued to the thyreoarytaenoideus e.

c d The upper part of its extremity, which is directed in courſe along by the margin of the glottis, betwixt the arytenoide cartilage and the epiglottis, and having reached the latter is inſerted into its lateral margin at d.

Add here Fig. 2. a b c.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. l. m m; where the left l croſſes the right m m.

e The *thyreoarytaenoideus.* See Fig. 4. a a b c d e.

f g h *Thyreoepiglotticus major.*

g Its origin from the thyreoide cartilage near the outer part of the upper portion of the thyreoarytaenoideus; from whence it aſcends firſt over the outer part of the ſaid thyreoarytaenoideus, and croſſing its upper part it then goes up by the ſide of the glottis, and is inſerted at h into the lateral edge of the epiglottis, adhering likewiſe to the extremity of the arytenoideus obliquus, inſerted into the ſame margin of the epiglottis.

Add here Fig. 7. a a b c d d e f g.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. f g; where it is partly covered by the ſecond thyreoarytaenoideus c.

i The *leſs thyreoepiglotticus*, or depreſſor of the epiglottis.

k Its origin from the inner part of the thyreoide cartilage near its middle.

l Its inſertion into the lateral edge of the epiglottis, above its root.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. i, where its extremity lies concealed behind the ſecond thyreoarytaenoideus c.

The cartilages of the larynx in this and the four following figures may be explained by the 7th figure of Tab. X.

FIGURE IV.

The thyreoarytaenoideus, and cricoarytaenoideus poſticus, laterally.

a a b c d e The *thyreoarytaenoideus.*

a a Its origin from the lower part of the internal ſide of the thyreoide cartilage near its middle.

b Its other origin from the ligament by which the cricoide and thyreoide cartilages are tied together in their fore part.

c The outer part which aſcends higher.

d The part which going under the former croſſes it and lies more tranſverſly. Moſt of it lies under the ſaid outer part.

e The end inſerted into the outer part of the anterior edge of the arytaenoide cartilage, above its baſis, and ſo above the end of the cricoarytaenoideus lateralis, b Fig. 5.

Add here Fig. 3. e.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. e; where part of it is covered by the thyreoepiglotticus major f g, and the ſecond thyreoarytaenoideus c.

f f g The *cricoarytaenoideus poſticus.*

f f Its origin from the cricoide cartilage.

g Its extremity inſerted into the end of the tubercle, that riſes up in the back part of the external ſide of the baſis of the arytaenoide cartilage.

Add here Fig. 2. d d d e.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. a. And in Fig. 5. δ; where the greater part lies concealed behind the thyreoide cartilage α, and behind the membrane of the pharynx. So alſo what appears naked of it in Fig. 4. δ, lies concealed in Fig. 3. behind the lower conſtrictor of the pharynx z δ.

FIGURE V.

The cricoarytaenoideus lateralis.

a a Its origin from the upper edge of the outer ſide of the cricoide cartilage, on one ſide, juſt beneath the arytaenoide cartilage.

b Its end inſerted into the baſis of the arytaenoide cartilage, on one ſide, juſt before the end of the cricoarytaenoideus poſticus, g Fig. 4.

The *ſyſtematic connexion* is in Tab. X. Fig. 6. b.

FIGURE VI.

The ſecond or leſs thyreoarytaenoideus.

a Its origin from the inner and upper part of the thyreoide cartilage, not far from its hart-like fiſſure.

c Its extremity inſerted into the arytaenoide cartilage juſt above the cricoarytaenoideus lateralis, b Fig. 5.

Add

Add here Fig. 7. h i.
The *ſyſtematic connexion* is in Tab. X. Fig. 6. c d.
d The left wing of the thyreoide cartilage, cut off at e.

FIGURE VII.

The greater thyreoepiglotticus, and ſecond thyreoarytaenoideus.

a a b c The *thyreoepiglotticus major* as we ſometimes find it.
b Its origin from the thyreoide cartilage, near the upper and outer part of the upper origin of the thyreoarytaenoideus; from whence it aſcends firſt along by the outer ſide of the ſaid thyreoarytaenoideus, by the ſide of the glottis to the epiglottis.
c The faſciculus or portion that paſſes thro' the ſecond thyreoarytaenoideus h, while the reſt goes behind it.
d d e The acceſſory portion, ariſing at d from the outer part of the upper edge of the cricoide cartilage, on one ſide.
f The common end inſerted at g into the edge of the epiglottis.
Add here Fig. 3. f g h.
h The *ſecond thyreoarytaenoideus*, cut from its origin at i. See Fig. 6. a c.

OF THE UVULA.

FIGURE VIII.

The azygus or ſingle muſcle of the uvula, viewed in its upper and poſterior part.

a The origin which is firſt thin, tendinous, and interwove with the tendinous membrane d d, and with the tendinous ends of the elevators of the palate, cloſe by the future or meeting of the palate bones, ſo as ſeemingly to ariſe from thence.
b From thence it runs thro' the middle of the ſoft palate e e, and thro' the length of the uvula c.
The *ſyſtematic connexion* is in Tab. X. Fig. 13. m.
d d The tendinous membrane which coming out of the noſtrils runs thro' the upper part of the ſoft palate under its ſkin or covering, which is here in a manner repreſented as cut off by the circumference of this membrane. See Tab. X. Fig. 14. m.
e e The ſoft or moveable palate.
f The uvula.
g g The poſterior arches which deſcend from the ſoft palate thro' the ſides of the fauces.
The reſt may be known from Fig. 27.

MUSCLES OF THE SOFT PALATE.

Add here the *Palatopharyngeus* Fig. 27. h, &c. Fig. 28. f, &c. Fig. 29. a, &c. and Fig. 11. f g.

FIGURE IX.

The elevator and circumflex muſcles of the ſoft palate viewed on the lower ſide with the ſoft palate, uvula, entrance into the noſtrils, and the Euſtachian tubes.

a b c d e f The *elevator of the ſoft palate.*

a The tendinous beginning by which it ariſes from the end of the os petroſum, where it is perforated by the Euſtachian tube; and from the lower ſide of the end of the tube, immediately under that part of it which is all the way ſoft or cartilaginous.

b Its courſe to the palate, into which at c it ſpreads more and more, to

d Its inſertion along the middle of the palate, almoſt from the poſterior edge of the palate bones to the root of the uvula, where the right and left are continued one to the other. See Tab. X. Fig. 14. k.

e The lower part, forming a ſeparate portion.

f The part which is connected by a thin tendinous end to the tendinous membrane, that is extended above upon the ſoft palate, coming from the noſtrils; and with that membrane ſeems to be inſerted into the middle and poſterior edge of the palate bones. See Tab. X. Fig. 14. i.

The *ſyſtematic connexion* of its poſterior ſide is ſeen in Tab. X. Fig. 14. g h i k l. Then in Fig. 13. g h i; where part lies behind the ſalpingopharyngeus q, and the reſt under the palatopharyngeus n. Then in Fig. 12. where a ſmall part w appears at the ſide of the membrane of the pharynx. See alſo Fig. 11. b; Fig. 10. i; and Fig. 9. k. Laterally, Tab. X. Fig. 5, and Fig. 4. b, and Fig. 3. b; where part lies concealed behind the upper conſtrictor of the pharynx q: and Fig. 2. g.

g h i k. g h i k l The *circumflex muſcles of the palate.*

h The origin from the end of the os petroſum, near the outer ſide of the elevator of the ſoft palate.

i Its broad tendon ſpread thro' the beginning of the ſoft palate, and inſerted at k into the poſterior lunar edge of the palate bones.

l The place where the broad tendons, right and left meet and conjoin together.

Add here Fig. 10.

The *ſyſtematic connexion* of this circumflex muſcle appears in its poſterior part in Tab. X. Fig. 16. i—n. Then in Fig. 15. h i k; where the part in the palalate is covered by the tendinous membrane n, which coming out of the noſtrils, goes thro' the upper part of the ſoft palate: covered alſo by the beginning

ginning of the palatopharyngeus q, and upper conſtrictor of the pharynx o. Then in Fig 14. n; where again the greater part is covered by the elevator of the ſoft palate g. See it alſo in Fig. 13. k; and in Fig. 12. x, at the ſide of the membrane of the pharynx: in Fig 11. c: and in Fig. 10. k; where it lies hid alſo behind the upper conſtrictor of the pharynx b: and in the ſame manner it appears in Fig 9. l, and Fig. 8. t.

Laterally it is ſeen in Tab. X. Fig. 5. a, and Fig. 4. a, Fig. 3. a, and Fig. 2. f.

m m The upper membrane of the ſoft palate.

n The uvula.

o o o o The circumference round which the membrane of the fauces is cut off.

p The opening of the fauces into the noſtrils.

q The Euſtachian tube: which appears alſo in the other ſide.

r The membranous part of the Euſtachian tube.

u The end of the os petroſum, where it is perforated by the ſaid Euſtachian tube; from whence at v in the right ſide, the tube r is continued. It is marked o in Fig. 10.

The other bones of the head are the ſame as explained in the tables of the bones.

FIGURE X.

The circumflexus of the palate viewed in its lower part.

a The tendinous beginning ariſing from the end of the os petroſum b, where the ſame is perforated by the Euſtachian tube; and from the lower part of the end of the ſaid tube, juſt on the outer ſide of that part of it which is wholly ſoft or membranous; and ariſing in the ſame manner with reſpect to the beginning of the elevator of the ſoft palate. See Fig. 9. h.

a c From thence in its upper part the ſaid tendinous beginning runs along the edge of the muſcle to c. This tendinous excurſion of its origin was obſerved broader along the outer ſide of the muſcle, and adhered to a certain thin narrow and tendinous ligament, that was extended from the firſt riſe of the muſcle along the internal root of the acute eminence in the multiform bone, which is behind the hole for the exit of the third branch of the fifth pair of nerves; and ſo was continued along the inner ſide of the ſaid oblong eminence that ſtands out from the multiform bone betwixt the ſaid hole and the os petroſum.

d Its anterior beginning ariſing at e from the inner protuberant ſide of the oblong ſinus (p Fig. 15.) which is impreſſed in the root of the internal pterygoide proceſs of the multiform bone, in its outer ſide, q Fig. 15.

f The tendinous beginning of the other portion or lamella, adhering to the upper part of the outer ſide of the Euſtachian tube, where that is of a cartilaginous nature; from whence the part g g is cut off.

h The common fleſhy belly.

i The beginning of the tendon which it forms, and which being broad at i, afterwards is drawn up into a narrow compaſs, when it bends itſelf round and behind the hook k, of the pterygoide proceſs of the multiform bone.

l After this inflexion it expands at l thro' the beginning of the ſoft palate in form of an aponeuroſis, and is inſerted at m, into the poſterior ſemilunar edge of the palate bone, as far as the palatine ſuture; and there at laſt it joins with its fellow, l Fig 9, from whence it is cut off at n.

Part of this muſcle which is ſeen inſerted by a tendinous end into the lower part of the pterygoide proceſs, at the outer ſide of the root of its little hook, is not here expreſſed; as it may poſſibly be an exception from the general deſign of nature.

Add here Fig. 9. g—l.

o The end of the os petroſum, where it is perforated by the Euſtachian tube. See Fig. 9. v.

FIGURE XI.

The conſtrictors of the iſthmus of the fauces, with the palatopharyngei, a fore view.

a b c d e *The conſtrictor of the iſthmus of the fauces.*

a The place where it aſcends, from the upper part of the edge of the tongue, round its root.

b Its courſe from the tongue to the palate, before the tonſil, and thro' the arch which is ſeated in the fauces by the ſide of the tongue, and belongs to the ſoft palate.

c Its courſe thro' the ſoft palate.

d the meeting of the right and left, from whence ſmall portions run out into the uvula, e.

The *ſyſtematic connexion* is in Tab. X. Fig. 17. f g. Laterally in Tab. X. Fig. 5. g: Fig. 4. l: and Fig. 3. c; where the greater part lies hid behind the upper conſtrictor of the pharynx s: and the ſame in Fig. 2. i.

f g The *palatopharyngeus*, that part of it which runs thro' the ſoft palate above the conſtrictor of the iſthmus, under part of the elevator of the ſoft palate. f the part which is laid bare before the ſaid conſtrictor. g the part that is naked behind it.

Add here Fig. 27. h, &c. Fig. 28. f, &c. Fig. 29. and Fig. 30. d, &c.

The *ſyſtematic connexion* is in Tab. X. Fig. 17. k l; where (as here) a great part is covered by the conſtrictor of the iſthmus of the fauces g.

From which laſt cited figure the reſt of this may be underſtood.

MUSCLES OF THE LOWER JAW.

FIGURE XII.

The temporalis in its fore part.

a b b c d d The firſt beginning of its origination, coming at a from the upper proceſs of the os jugale; at b b c from the eminence that is in the ſide of the os frontis, and in the parietal bone c; at d d from the temporal bone.

e The

e The tendon.

f g h Its inſertion, at f into the top of the coronoide proceſs of the lower jaw, its poſterior edge g, and its anterior edge h going from thence into the point: and the other tip of the tendon which is longer and thicker, is fix'd into the eminence k, which the coronoide proceſs forms at the inner and fore ſide of its root. Near

m n The poſterior and lower part of the tendon, bends itſelf round the hollow root of the zygomatic proceſs in its deſcent under the os jugale to the lower jaw.

Add here Fig. 13. and 14.

The *ſyſtematic connexion* is in Tab. II. i, &c. in the head; where it paſſes under the os jugale, lying under and behind the maſſeter o r. In Tab. I. it alſo lies under the aponeuroſis epicranii a in the head; and with that under the attollens auriculæ Γ Δ, the anterior of ditto Z, the frontalis b d, and the orbicularis of the eye-lids m n.

l l Part of the os jugale cut off. m its proceſs cut off which meets with the zygomatic proceſs of the temporal bone, which is alſo cut off at n.

FIGURE XIII.

The temporalis in its back part.

a a a b The firſt beginning of its origination from the eminence of the parietal bone a a a, and mammillary eminence b.

The reſt of its origination from the breadth of the ſide of the ſkull, which is made up by the ſuperior proceſs of the os jugale, of the lower ſide of the os frontis, by the parietal bone and os ſquamoſum, by the largeſt proceſs of the multiform bone, and the eminences which are in the lower part of its ſide, could not be repreſented in theſe figures, as thoſe parts from whence it ariſes lie underneath the muſcle.

Outwardly part of it ariſes or deſcends from the tendinous membrane which covers it, and which is here removed.

c The tendon.

Add here Fig. 12. and 14.

The *ſyſtematic connexion* of this part is in Tab. VI. A, &c. in the head; where it paſſes under the os jugale, and then goes behind the maſſeter E G. In Tab. V. it alſo lies under the aponeuroſis of the epicranius d d, and with that under the attollens f g, and the anterior muſcle k, of the external ear.

FIGURE XIV.

The inſertion of the temporalis in the inner ſide of the jaw.

a Denotes a thin tendinous part of its end, inſerted into the poſterior edge of the root of the coronoide proceſs of the lower jaw.

b b The inſertion of a fleſhy part into the whole inner ſide of the root of the coronoide proceſs.

c The thicker point of the tendon, inſerted at d into the eminence which is in the fore part of the root of the coronoide proceſs.

e The thinner point of the tendon.

Add here Fig. 12, and 13.

f The inner ſide of the left half of the lower jaw.

FIGURE XV.

The pterygoideus internus and externus view'd from below.

a The *pterygoideus internus.*

b Its origination by a tendinous beginning from the bottom of the cavity in the pterygoide proceſs of the multiform bone; alſo ariſing from little leſs than the whole ſurface of the inner ſide of the outer plate or wing of the ſaid proceſs.

c Part of the origination from the lower ſide of the palate bone, where that is inſerted betwixt the opening of the pterygoide proceſs. From thence it has a tendinous beginning: and near the ſame place it alſo ariſes at d from the upper jaw bone.

e The tendinous end which is inſerted into the lower and inner ſide of that part of the mandible which aſcends to the head, even as far as its lower angle f f.

Add here Fig. 17.

g The *pterygoideus externus.*

h Its origination from almoſt the whole outer ſide of this outer plate of the pterygoide proceſs.

i Its origin from the lower part of the edge of the ſaid plate, that looks towards the pterygoide excavation.

k Its origination from the lower margin of the ſaid plate.

l The place where it ariſes from the outer part of the pterygoide portion of the palate bone, and from the fartheſt part of the upper jaw.

k l The tendinous part of its beginning.

m A part which comes from the lower part of the multiform bone, and from the outer ſide of the root of the pterygoide proceſs.

n n o The tendinous end inſerted at n n into the neck of the lower jaw, where the ſame becomes hollow on the inner ſide of its fore part, immediately after its round head: alſo to the anterior and inner edge of the cartilaginous plate o, that is interpoſed betwixt the articulation of the lower jaw.

Add here Fig. 16.

p The protuberance of the inner plate of the oblong ſinus, that is impreſſed at q in the root of the inner ſide of the pterygoide proceſs of the multiform bone, in its outer part. From which protuberant plate ariſes the circumflexus of the palate, e Fig. 10.

The remaining bones of the head here are the ſame, as explained in our tables of the bones.

FIGURE

FIGURE XVI.

The pterygoideus externus, in its outer or fore part.

a Its lower part.

b c Its origin behind the jaw from almoſt the whole external ſurface of the outer plate of the pterygoide proceſs: and below near c, from the outer part of the pterygoide portion of the palate bone, and extremity of the upper jaw.

d The tendinous part.

e The extremity inſerted into the neck of the lower jaw, where it has an excavation in the inner part of its anterior edge juſt below its head.

f The upper part, whoſe fibres meet in an acute angle with thoſe of the lower part.

g g Its origin from the lower part of the multiform bone, near the outer ſide of the root of the pterygoide proceſs.

h The extremity that is inſerted above the lower part of the mandible.

Add here Fig. 15. g—o.

The *ſyſtematic connexion* is in Tab. III. ε ε in the head, where it in part lies hid behind the buccinator v, the upper jaw and os jugale, alſo behind the zygomatic proceſs, and the coronoide proceſs of the lower jaw, about which it paſſes behind the inſertion of the temporalis. Then in Tab. II. A in the head; where alſo it lies hid behind the upper jaw, the os jugale, and the buccinator z: alſo behind the maſſeter r.

Laterally in Tab. X. Fig. 1. a, where it is partly covered by the pterygoideus internus b, and in part lies behind the lower jaw.

i The os jugale here cut off, k the upper jaw cut off, l the zygomatic proceſs of the temporal bone here cut off, m the coronoide proceſs of the lower jaw-bone here cut off, which intermediate bones are cut out, that the muſcle may come into view.

n The largeſt lateral proceſs of the multiform bone.

o The upper jaw-bone.

FIGURE XVII.

The pterygoideus internus in its fore part.

a a Here its origination lies behind, in a cavity of the pterygoide proceſs of the multiform bone.

b The tendinous end which at c c begins to inſert itſelf into the lower portion of the inner ſide of that part of the lower jaw, which riſes up to the head; where its inſertion is extended as far as the lower angle. See f f Fig. 15.

Add here Fig. 15. a—f.

The *ſyſtematic connexion* is in Tab. IV. r in the head; where (as here) at its origination it lies behind the pterygoide proceſs, and alſo behind the lower jaw, upon which it deſcends behind the extremity of the temporalis. Then in Tab. III. ζ in the head; where it alſo lies behind the buccinator v, and is covered

by the external pterygoideus ε. And what part appears naked in Tab. III. in Tab. II. lies behind the maſſeter r in the head.

Poſteriorly it is ſeen in Tab. VII. c in the head; where it likewiſe is hid behind the mammillary proceſs, and the trachelomaſtoideus z B in the neck. Then in Tab. VI. I in the head, where it lies hid behind the ſplenius capitis P in the neck. Next in Tab. V. ϱ in the head; where it is in part covered by the latiſſimus colli t, behind the ſternomaſtoideus u in the neck, and behind the outer ear.

Laterally Tab. X. Fig. 1. b c, it lies hid at its origin behind the maſtoide proceſs. In Tab. IX. ιϰ in the head, it is partly covered by the latiſſimus colli π ξ; and in part it lies hid behind the ſternomaſtoideus ϱ in the neck, and in part behind the outer ear.

d d d d A portion of the lower jaw cut off, to ſhew the muſcle that is ſeated behind it.

FIGURE XVIII.

The biventer of the lower jaw, viewed laterally.

a The firſt belly.

b The middle tendon.

c The ſecond belly, inſerted at d into the back part of the lower edge of the mandible, near the middle of the chin.

Add here Fig. 19.

The *ſyſtematic connexion* appears in Tab. X. Fig. 1. g h i i; where its origination (as here) is hid behind the mammillary proceſs; and is partly covered by the ſtylohyoideus e f. In Tab. IX. it is wholly covered by the latiſſimus colli μ in the neck, by the ſternocleidomaſtoideus ϱ in the neck, by the ſplenius capitis υ, the ſtylohyoideus λ, &c.

Anteriorly it appears in Tab. II. y P in the head; where in part it lies hid behind the lower jaw, and in part is covered by the ſternocleidomaſtoideus λ in the neck, and partly by the ſtylohyoideus R. Then in Tab. I. Σ in the head; where it is likewiſe hid behind the lower jaw, covered by the ſternocleidomaſtoideus Φ in the neck, and goes behind the outer ear: and below (where it is naked in Tab. II.) it is covered by the latiſſimus colli Ω.

Poſteriorly it is ſeen in Tab. VI. L in the head, where it is concealed behind the ſplenius capitis P in the neck, and elevator of the ſcapula Z. And what is here naked, in Tab. V. lies behind the ſternocleidomaſtoideus u in the neck.

FIGURE XIX.

The Biventer of the mandible viewed from below.

a its firſt belly, b the tendinous origin of it from an inciſure c c, that divides the root of the maſtoide proceſs of the temporal bone on its inner ſide; and principally from the inner and lower edge of it.

d The middle tendon.

e The

e The ſecond belly inſerted by a tendinous end f into the back part of the lower edge of the mandible g g, near the middle of the chin.

h The aponeuroſis that comes out from the lower ſide of the tendinous inſertion f, and from the tendinous beginning of the ſecond belly, and afterwards fixes itſelf at i into the fore part of the baſis of the os hyoides, near the lateral part of its lower edge, betwixt the ends of the mylohyoideus, ſternohyoideus, and coracohyoideus.

Add here Fig. 18.

The bones here may be underſtood from the tables of the bones.

FIGURE XX.

The maſſeter, in its fore part.

a The outer and larger part.

b The tendinous part of its origin externally.

c Its origin from the anterior and lower part of the external proceſs of the upper jaw that joins the os jugale; from whence it is continued all along externally from the lower edge of the os jugale, where it forms part of the zygomatic proceſs, ceaſing its origination a little before the lower part of the zygomatic future.

e f The tendinous end inſerted into the ſurface of the outer part of the ſide of the lower jaw, even as far as the extreme angle g.

h The inner and leſs portion of this muſcle, where it lies uncovered.

i The origin of this portion from the lower edge of the os jugale, near the zygomatic proceſs of the temporal bone: and at k it ariſes from the lower margin of the zygomatic proceſs, as far as the tubercle that ſtands out for the articulation of the lower jaw.

l A portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale; from which membrane this portion is cut off.

Add here Fig. 21. and 22.

The *ſyſtematic connexion* appears in Tab. II. o—x in the head. Then in Tab. I. V W X Y in the head; where it is in part covered by the zygomaticus major E, and the latiſſimus colli $\gamma\,\gamma$.

FIGURE XXI.

The interior and leſs portion of the maſſeter, in its fore part.

a a b Its origin from the whole length of the os jugale: a a from the bottom part of the lower margin of the os jugale, all the way as it extends to the zygomatic proceſs of the temporal bone; and from that proceſs itſelf of the temporal bone at b, as far as the tubercle that ſtands out for the articulation of the lower jaw.

c A tendinous part of its origin.

d The

d The tendinous end inſerted into the external ſide of the coronoide proceſs, from the top to the bottom of it; and alſo into the next adjacent part of the lower jaw below the root of the ſaid proceſs e e e.

f The portion that goes off above the os jugale from the inner part of the tendinous membrane, that covers the temporalis externally, and is fixed to the os jugale: from which membrane, here removed, this portion of the maſſeter is cut off.

Its origin from the inner ſide of the os jugale cannot be perceived in the figure.

Add here Fig. 20. and 22.

FIGURE XXII.

The maſſeter viewed in its back part.

a The outer and larger part, inſerted at the inferior angle of the lower jaw b b.

c d The inner and leſs portion. c the outer part that lies uncovered. d the inner part.

e Its origin from the zygomatic proceſs of the temporal bone.

Add here Fig. 20. and 21.

The *ſyſtematic connexion* appears in Tab. VI. E F G H in the head. Then in Tab. V. p q in the head; where part of it is covered by the latiſſimus colli t, part by the greater zygomaticus r, and part lies hid behind the external ear.

Laterally it appears in Tab. IX. δ—θ in the head; where it is partly covered by the latiſſimus colli ξ o, and in part by the greater zygomaticus y z.

MUSCLES OF THE PHARYNX.

Add here the *palatopharyngeus* Fig. 11. f g.

FIGURE XXIII.

The lower, middle, and upper conſtrictors of the pharynx, with the buccinator, viewed laterally.

a The *lower conſtrictor of the pharynx.*

b b c d The head which ariſes from the thyreoide cartilage; and particularly b b from the outer part of the upper margin before the ſuperior proceſs; and from the adjacent tubercle that is at the root of the ſaid proceſs; alſo from the oblong eminence that is in the ſide of the thyreoide cartilage. c from the lower margin of the cartilage that is before its lower proceſs. d from the outer part of its lower proceſs.

e e The

e e The head ariſing from the lower part of the external ſide of the cricoide cartilage near its back part, immediately below the lower thyreoide proceſs, which receives that of the cricoide cartilage.

Betwixt theſe two heads, near d, it receives a portion from the cricothyreoideus, d d Fig. 47. Tab. XI.

Add here Fig. 24. a.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 3. z. and Fig. 2. δ. Then in Fig. 1 β; where part of its origin lies under the hyothyreoideus q.

Anteriorly it is ſeen in Tab. III. ω in the neck; where it is partly covered by the hyothyreoideus τ, and part of it lies hid behind the ſternothyreoideus π. Then in Tab. II. X in the neck; where it is partly likewiſe covered by the hyothyreoideus Y, and alſo lies hid behind the ſternocleidomaſtoideus λ. But what appears naked in Tab. II. lies hid in Tab. I. behind the latiſſimus colli Ω in the neck.

f *The middle conſtrictor of the pharynx.*

g One of the heads which is the broadeſt, ariſing from the upper and outer part of the end of the horn of the os hyoides.

h The other head ariſing from the ſmall grain-like bone of the os hyoïdes.

Add here Fig. 24. i. and Fig. 25.

The *ſyſtematic connexion* is in Tab. X. Fig. 3. w x y; where (as here) its lower part is covered by the lower conſtrictor z. Then in Fig. 2. α β γ; where alſo its lower part is covered by the lower conſtrictor δ, and alſo by the origin of the ceratogloſſus n, and baſiogloſſus o. Then in Fig. I. δ ε ζ; where alſo its lower part is covered by the lower conſtrictor β, and by the origin of the ceratogloſſus m, the baſiogloſſus l, and the biventer g of the lower jaw.

i The *upper conſtrictor of the pharynx.*

k The uppermoſt part, which comes out from the ſuperior part of the poſterior edge of the tendon of the circumflexus of the palate, where that paſſes from behind the hook into the palate. See its origin Tab. X. Fig. 15. o.

l The part that ariſes from the inner ſide of the whole length of the hook of the pterygoide proceſs of the multiform bone, and from the inner plate of the ſaid proceſs, at the root of the little hook.

m The part that is joined to the middle origin of the buccinator.

n The part that ariſes from the inner ſide of the lower jaw, near the upper edge of the ſocket of the laſt grinding tooth: from whence it is cut off.

o The very thin part that ariſes from the ſide of the root of the tongue, where the ſtylogloſſus firſt meets the ceratogloſſus.

p The part that comes from the fibres of the geniogloſſus, which are incurvated round the ſide of the pharynx.

Add here Fig. 24. l. and Fig. 26.

The *ſyſtematic connexion* is in Tab. X. Fig. 3. p q r s t u n; where (as here) it is in part covered by the middle conſtrictor w. Then in Fig. 2. y y z, where in like manner it is partly covered by the middle conſtrictor α; and it alſo lies hid behind the ſtylopharyngeus w, and the ſtylogloſſus k. Then in Fig. 1. η; where alſo it is in part covered by the middle conſtrictor δ, and lies hid behind the biventer of the lower jaw g.

q The *buccinator*.

r Its origination from the outer part of the end of the hook of the pterygoide proceſs of the multiform bone.

s The origin from the bottom of the ſpace, that is betwixt the hook and outer plate of the ſaid proceſs.

t The part where it ariſes from the outer ſide of the upper jaw, immediately above the gums, behind the innermoſt grinding tooth.

u The part which ariſes from the outer ſide of the lower jaw, from an oblong ridge ſent out for that purpoſe, betwixt the innermoſt grinder and the root of the coronoide proceſs, from whence it is here cut off.

m The intermediate part of this muſcle, that is continued to the upper conſtrictor of the pharynx.

Add here Tab. XI. Fig. 14. a—e. and Fig. 13. k k.

The *ſyſtematic connexion* is ſeen in Tab. IX. γ in the head; where it is cover'd by the zygomaticus major y, the maſſeter δ, and the latiſſimus colli ξ o.

v The tongue. See Tab. XI. Fig. 41.

w The ſtylogloſſus, here cut off at x. See Tab. XI. Fig. 41. f.

y The lingualis. See Tab. XI. Fig. 41. e.

z The ceratogloſſus and baſiogloſſus cut off. See Tab. XI. Fig. 41. betwixt f b e.

α The geniogloſſus, ariſing at β β from the rough eminence that is in the inner ſide of the lower jaw near its ſymphyſis. γ thin fibres incurvated round the ſide of the pharynx, ſome of which aſcend at δ to the ceratogloſſus and ſtylogloſſus, others vaniſh at ε in the membrane of the pharynx, and others march at p to the upper conſtrictor of the pharynx. See Tab. XI. Fig. 41. c d, and Fig. 42.

ζ The lower jaw, cut off at η η.

The reſt may be known from Fig. 2. Tab X.

FIGURE XXIV.

The upper, middle, and lower conſtrictors of the pharynx, in their back part.

a a The *lower conſtrictor of the pharynx.*

b b The origination from the cricoide cartilage.

c The point in which they terminate above.

c—d The courſe in which the fibres meet in angles, more acute as they aſcend higher.

e The part where the right and left fibres are continued one into the other in curves.

Add here Fig. 23. a.

The *ſyſtematic connexion* is in Tab. X. Fig. 8. a b. a b c d e.

f The inner fibres of the gula, which are tranſverſe, laid bare in this place.

g g the outer fibres which deſcend obliquely backward on each ſide.

h The gula or oeſophagus cut off.

The *ſyſtematic connexion* of this part is in Tab. X. Fig. 8. f. g g.

i i The *middle conſtrictors of the pharynx*, a great part of which lies under the lower a a c.

k The point in which they terminate above; and which in many bodies is found thin, tendinous and inſerted into the lower part of the occipital bone, before its great foramen.

Add here Fig. 25. and Fig. 23. f g h.

The *ſyſtematic connexion* appears in Tab. X. Fig. 9. a. a b c. Then in Fig. 8. n. n o; where (as here) a great part lies under the lower conſtrictors a a e.

l l The *upper conſtrictors of the pharynx*, of which a great part lies under the middle conſtrictors i. i k.

m m Parts which ariſe from the lower jaw at n n, near the innermoſt of the grinding teeth.

o o The parts cut off from the buccinators.

See Fig. 26. and add Fig. 23. i—p.

The *ſyſtematic connexion* appears in Tab. X. Fig. 10. a—g. a—g; where they in part lie behind the ſtylopharyngei o p. o p. Then in Fig. 9. d e f. d e f; where they are alſo behind the ſtylopharyngei r q. r q; and a great part of them (as here) lies behind the middle conſtrictors a a. The ſame alſo appear in Fig. 8. p q r. p q r; a great part being there under the middle conſtrictors n n o; and the ſtylopharyngei v w. v w.

p p The inner grinding teeth.

The reſt may be known, upon occaſion, from Tab. X. Fig. 8.

FIGURE XXV.

The middle conſtrictors of the pharynx, in their back part.

a The upper point in which they meet.

b The lower point.

Betwixt which points the fibres meet in angles, pointing upwards from c to a; and more acute as they riſe higher, till they become direct at c c; from whence they deſcend and meet in angles that are more acute as they go lower.

Add here Fig. 24. i i k. and Fig. 23. f g h.

c c The ends of the horns of the os hyoides.

FIGURE XXVI.

The upper conſtrictors of the pharynx in their back part.

a The lower part which tranſverſes the upper b.

c The part which ariſes at d from the inner ſide of the lower jaw, near the innermoſt grinding tooth.

e The portion that is cut off from the buccinator.

f The point in which the right and left portions meet together above.

Betwixt f and g their fibres meet in obtuſe angles.

Add here Fig. 24. l m n o. l m n o. and Fig. 23. i, &c.

h h The innermoſt of the lower grinding teeth.

FIGURE XXVII.

The ſtylopharyngei, palatopharyngei, and ſalpingopharyngei.

a The *ſtylopharyngeus.*

b The tendinous beginning ariſing at c from the inner, poſterior, and upper part of the bony portion, that is joined to the ſtyloide proceſs of the temporal bone, and which is moveable in young ſkulls.

d The ſuperior and leſs portion of this muſcle, which at l joins to the palatopharyngeus.

e The lower and larger portion, of which the part f is inſerted into the outer ſide of the edge of the thyreoide cartilage, at the root of its upper proceſs: and the part g is inſerted into the ſubſequent portion of the edge of the ſaid cartilage as far as the root of its lower proceſs.

Add here Fig. 28. a, &c. and Fig. 30. a, &c.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 11. f, &c. Then in Fig. 10. l, &c. where it is in part covered by the upper conſtrictor of the pharynx a e e. Then in Fig. 9. o, &c. where it is alſo in part covered by the upper conſtrictor d, and by the middle one a. And in the ſame manner it is ſeen in Fig. 8. u, &c.

h l The *palatopharyngeus.*

h The part that is ſpread thro' the ſoft palate, above the elevators of the ſaid palate.

i Here it riſes out, near the poſterior edge of the palate bones, from the tendinous membrane that comes out of the noſtrils, and goes thro' the upper part of the ſoft palate.

Thro' the middle of the ſoft palate, the right and left ſtylopharyngeus are continued one into the other, almoſt from the poſterior edge of the palate bones to the root of the uvula.

k The part, which at its origin lying under the elevator of the ſoft palate comes out from the aponeuroſis of the circumflexus of the palate. See Fig. 29. b.

l Here the muſcle coming out from the ſoft palate, is incurvated thro' the ſide of the pharynx, and goes on thro' its back part till it joins with the ſtylopharyngeus d.

Add here Fig. 28. f, &c. Fig. 29. and 30. d, &c. and Fig. 11. f g.

The *ſyſtematic connexion* of the part that is in the pharynx appears in Tab. X. Fig 11. e: and in Fig. 10. it lies behind the upper conſtrictor of the pharynx a. That of the portion in the palate appears in Tab. X. Fig. 13. n o p; where it lies partly hid behind the ſalpingopharyngeus q, and under the azygus of the uvula m.

m The common end of the ſtylopharyngei and palatopharyngei, running thro' the poſterior part of the membrane of the pharynx.

n o The meeting of the right and left fibres together, thro' the middle of the length of the pharynx. p o p the place where they vaniſh in the back part of the membrane of the pharynx, and at p p are inſerted into the thyreoide cartilage.

Add

Add here Fig. 30. i.

The *ſyſtematic connexion* appears in Tab. X. Fig. 11. o. Then in Fig. 10. t; where in its upper part it lies under the upper conſtrictor of the pharynx a. Then in Fig. 9. s; where it alſo lies under the middle conſtrictor a: and what there appears naked is in Fig. 8. covered by the lower conſtrictor a.

q The *ſalpingopharyngeus:* which joins itſelf to the inner part of the palatopharyngeus.

r Its origin from the lower and anterior part of the Euſtachian tube, where that is of a cartilaginous texture, near its extremity.

Add here Fig. 28. k l.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. q.

The pharynx is here laid open in its upper part, by cutting out all that lies betwixt the baſis of the ſkull and the upper edge of the palatopharyngei.

s s The place from whence the back part of the pharynx is cut off.

t u v The Euſtachian tube, as yet cover'd at t with the membrane that lines the fauces internally; of which it is laid bare at u, upon which part lay the elevator of the ſoft palate. v the orifice that opens at the ſide of the poſterior foramen of the noſtril.

w The partition of the noſtrils, covered with its mucous membrane.

x x The cavity of the noſtrils.

y The lower os ſpongioſum, covered with the mucous membrane.

z z The place from whence is cut off the membrane that lines the cavity of the noſtrils internally.

The foregoing parts are the ſame as in Fig. 15. Tab. X.

α α The tendinous membrane, which coming out of the noſtrils, is ſpread over the upper ſide of the ſoft palate.

β The external ſide of the pterygoide proceſs of the multiform bone, with its little hook γ, as in Tab. X. Fig. 16.

δ The uvula as in Tab. X. Fig. 15.

ε ε The thyreoide cartilage.

ζ The naked membrane of the lower part of the pharynx, to which part of the gula is continued; but is cut off at η.

The foregoing parts are the ſame as in Tab. X. Fig. 10.

θ The ſtyloide proceſs of the temporal bone, as in Fig. 9. Tab. X.

FIGURE XXVIII.

The ſtylopharyngei, palatopharyngei, and ſalpingopharyngei.

The whole back part of the pharynx being cut off from the top, and longitudinally from each ſide and removed, the internal part that then appears is here repreſented, with the internal membrane or covering alſo taken off, as in Tab. X. Fig. 13. The cricoide and arytaenoide cartilages with their epiphyſes or additaments are alſo removed here, as in Tab. X. Fig. 15.

a b c d e The *ſtylopharyngeus.*

b Its tendinous origin cut off at c from the ſtyloide proceſs of the temporal bone.

d The upper and leſs part of the ſtylopharyngeus, e its larger and lower part.

Add here Fig. 27. a, &c. and Fig. 30. a, &c.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. r, &c. Fig. 14, p, &c. and Fig. 15. x, &c.

f g h The *palatopharyngeus*.

f The part that is ſpread thro' the ſoft palate above the elevator of the ſaid palate: and which with its fellow is continued thro' the whole middle length of the palate.

g The place where it goes off from the tendinous membrane that is detached from the noſtrils, and ſpread over the upper ſide of the ſoft palate.

h The part which at its origin lies under the elevator of the ſoft palate, and ſprings from the aponeuroſis of the circumflexus palati. See Fig. 29. b.

From i to i are cut off the portions of the palatopharyngei and ſtylopharyngei which run down the poſterior membrane of the pharynx, l d e m, Fig. 27.

Add here Fig. 27. h, &c. Fig. 29. and Fig. 30. d, &c. and Fig. 11. f. g.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. n o p: where, as here, it lies hid in part behind the ſalpingopharyngeus, and under the azygus uvulæ m.

k The *ſalpingopharyngeus*, which joins itſelf to the inner part of the palatopharyngeus.

l Its origin from the anterior and lower part of the Euſtachian tube, which is of a cartilaginous nature, near its extremity.

Add here Fig. 27. q r.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. q.

m The common end of the palatopharyngeus and ſalpingopharyngeus, which deſcends thro' the ſide of the pharynx, is protuberant within the ſame, and forms the poſterior arch that goes down from the ſoft palate thro' the ſide of the fauces.

Add here Fig. 29. c.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. w.

n o Part of the common end of the ſtylopharyngeus and palatopharyngeus, ſpringing from the ſtylopharyngeus: of which the part n runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part o is inſerted into the upper edge of the thyreoide cartilage, betwixt its upper proceſs and the epiglottis.

Add here Fig. 29. e f.

The *ſyſtematic connexion* appears in Tab. X. Fig. 13. x y. and Fig. 14. y z.

p The uvula.

q q The poſterior edges of the ſoft palate.

r r The tonſils.

s The tongue.

t The epiglottis.

u The thyreoide cartilage.

The foregoing parts as in Tab. X. Fig. 15.

The remaining parts of this figure are the ſame as thoſe in Fig. 27.

FIGURE

FIGURE XXIX.

The palatopharyngei.

We have removed thoſe parts of them that are ſpread thro' the ſoft palate, above the elevators of the ſaid palate, f g. f g Fig. 28. The ſalpingopharyngei, k k Fig. 28. are alſo here taken off.

a The part that is ſpread thro' the ſoft palate under the end of the elevator of the ſaid palate: and which continues itſelf with its fellow thro' the middle of the length of the palate.

b b The place where it ſprings from the aponeuroſis of the circumflexus of the ſoft palate.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 15. p, &c. Then in Fig. 14. w; where it is covered by the elevator of the ſoft palate k l.

c The part which deſcends thro' the ſide of the pharynx, is protuberant within the ſame, and forms the poſterior arch that goes down by the ſide of the fauces from the ſoft palate.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 15. t, and Fig. 14. x.

From d to d are cut off the portions of the palatopharyngeus and ſtylopharyngeus, which run thro' the back part of the membrane of the pharynx, l d e m Fig. 27.

e f Part of the common end of the ſtylopharyngeus and palatopharyngeus, produced from the ſtylopharyngeus: of which the part e runs inward upon the lateral ligament of the epiglottis to the lateral edge of the epiglottis: and the part f is inſerted into the upper margin of the thyreoide cartilage, betwixt its upper proceſs and the epiglottis.

The *ſyſtematic connexion* appears in Tab. X. Fig. 15. v w.

Add here Fig. 28. f g h i i m n o: and Fig. 27. h i k l m: Fig. 30. d, &c. and Fig. 11. f g.

The reſt of this figure may be known in part from Fig. 27. and in part from Fig. 28.

FIGURE XXX.

The ſtylopharyngeus and palatopharyngeus on one ſide.

a The *ſtylopharyngeus* cut off at b. It is that marked a b, &c. in Fig. 27. and a b, &c. in Fig. 28.

c The portion of it that joins itſelf to the upper part of the palatopharyngeus, d Fig. 27.

The *ſyſtematic connexion* is ſeen in Tab. X. Fig. 4. d e. Then in Fig. 2. w; where it is partly covered by the middle conſtrictor of the pharynx β, and what there appears naked, in Fig. 1. lies under the biventer of the lower jaw g.

d æ The *palatopharyngeus*, cut off at æ. It is that in Fig. 27. mark'd l.

The *ſyſtematic connexion* appears in Tab. X. Fig. 4. f f; where (as here) it in part lies hid behind the ſtylopharyngeus d.

e The

e The common end of the ſtylopharyngeus and palatopharyngeus.

f That part of the ſtylopharyngeus which is inſerted into the upper edge of the thyreoide cartilage, betwixt its upper proceſs and the epiglottis. See Fig. 28. n o; and Fig. 29. e f.

g h Portions of the ſtylopharyngeus inſerted into the edge of the thyreoide cartilage, the part g into the external ſide of its margin at the root of its upper proceſs; the part h into the reſt of the margin. They are thoſe marked f. g. Fig. 27.

i Part vaniſhing below in the membrane of the pharynx, marked o p in Fig. 27.

The *ſyſtematic connexion* appears laterally in Tab. X. Fig. 4. g g h i k; where part lies hid behind the horn of the os hyoides w; part behind the ligament x, that goes from the end of the horn of the os hyoides to the upper proceſs of the thyreoide cartilage; and part (as here) behind the thyreoide cartilage y z. Then in Fig. 3. betwixt x y, and at ε; where part alſo lies behind the horn θ of the os hyoides, its ligament ι, and the thyreoide cartilage κ: it is alſo there covered by the middle conſtrictor of the pharynx w x y, and the lower one z. Then in Fig. 2. it appears betwixt β and γ, and at x; where beſides lying behind the hyoidal horn v, and its ligament, with the middle conſtrictor of the pharynx α β γ, and the lower one δ, with the thyreoide cartilage ι, it is alſo behind the ceratogloſſus n. Then in Fig. 1. it appears betwixt ε and ζ, and at p; where in like manner it lies behind the hyoidal horn n and its ligament, the middle conſtrictor δ ε ζ, the lower one β, and the thyreoide cartilage; it moreover lies behind the hyothyreoideus q r.

Anteriorly it appears in Tab. III. χ in the neck, where part of it appears naked betwixt the hyoidal horn λ, its ligament ψ, the thyreoide cartilage and the hyothyreoideus τ, with the lower conſtrictor of the pharynx ω, behind all which it is alſo placed. So alſo it appears in Tab. II. w in the neck; placed alſo behind the ſame hyoidal horn, and its ligament y, the thyreoide cartilage, the hyothyreoideus Y Z, and the lower conſtrictor X. And what part of it has appeared naked in the fore-mentioned tables, lies hid in Tab. I. behind the latiſſimus colli Ω in the neck.

k The membrane of the pharynx, with the membrane of the gula that is continued to it.

MUSCLES OF THE ANUS, PENIS URETHRA AND ITS BULB, WITH THE END OF THE RECTUM, AND THE ANUS.

FIGURE XXXI.

The elevators of the anus with the external ſphincter, a poſterior view.

a a—k The *levatores ani*, in ſome meaſure reſembling the ſhape of a funnel, and beſides the portions fixed to the os coccyx, they together form a ſort of tape

tape or ſwath that is principally wound about the inteſtinum rectum, but is alſo attached by its extremities to the ſides of the pelvis, to the angles of the penis and the bulb of the urethra, as will be here pointed out. Beſides ſurrounding the rectum inteſtinum, it alſo takes in the lower part of the bladder with the ſeminal veſicles and proſtrate gland; alſo the vagina in women.

a a The anterior portions viewed on their inner ſide within the pelvis.

b c d Their origin from the inner ſide of the os pubis, at b near the lower end of the ſynchondroſis, from whence (the part b c is fleſhy, the part c d tendinous) it aſcends backward round the beginning of the obturator internus.

e The tendon which forms its upper edge, and ariſes in its higheſt part from the os pubis, and continues thro' the ſide of the pelvis, almoſt to the acute proceſs of the iſchium.

f Its origination from the acute proceſs of the iſchium.

g The poſterior part ſeen in its outer ſide.

h The place where it is inſerted behind into the anterior edge of the laſt, and laſt but one of the bones of the coccyx.

i i The tendinous ends that are continued to each other juſt below the coccyx, the fibres meeting together in angles that point upwards.

k The place where its fleſhy parts are continued.

Add here Fig. 32. a—g. a—g: and Fig. 33. and 34.

The *ſyſtematic connexion* appears in Tab. VI. e e in the lower part of the trunk; where they paſs under the external ſphincter of the anus f. Then in Tab. V. ε in the buttocks; where they alſo paſs under the outer ſphincter η of the anus, and are hid behind the largeſt glutei γ γ.

l l The *internal ſphincter of the anus.*

Add here Fig. 32. l.

The *ſyſtematic connexion* is not repreſented.

m m The end of the inteſtinum rectum.

n The anus.

o o The ſynchondroſis or cartilaginous juncture of the oſſa pubis p p.

FIGURE XXXII.

The elevators of the anus with its internal ſphincter, ſeen from before.

a—g. a—g The *levatores ani.*

a b c The origination from the inner ſide of the os pubis, the part a near the lower end of the ſynchondroſis; and from thence it is continued (partly fleſhy a b, partly tendinous c) upward and backward round the origin of the obturator internus.

d The tendon that forms the upper edge of this muſcle from the higheſt part of its origination at the os pubis thro' the ſide of the pelvis, almoſt to the acute proceſs of the iſchium.

e The thin portion that comes out from the angle f, where the head of the penis joins the ſpongy body of the urethra; it is alſo continued from along the upper part of the ſide of the bulb of the urethra, as far as g.

Add here Fig. 31. a—k. a—k: and Fig. 33. and 34.

The

The *ſyſtematic connexion* of this part of it is not to be ſeen, as it is covered by the erectors of the penis ζ ζ, Tab. IV. in the trunk; and by the tranſverſe of the perinæum i. i.

h The bulb of the urethra, going into the ſpongy body of the urethra i.

k The urethra with its ſpongy body cut off.

l The *internal ſphincter of the anus.*

Add here Fig. 31. l l.

m m The end of the inteſtinum rectum.

n The anus.

o o o o o. o o o o o The places from whence portions of the oſſa pubis are cut out, to view the elevators that lie behind.

FIGURE XXXIII.

The left elevator of the anus viewed in its outer and lateral part.

a The tendon that forms its upper edge from the higheſt part of its origin at the os pubis, along the ſide of the pelvis, almoſt to the acute proceſs of the iſchium.

b c d Its origination from the inner ſide of the os pubis, partly tendinous b c, and partly fleſhy c d, where it paſſes round the origin of the obturator internus.

e The origin from the inner part of the acute proceſs of the iſchium.

f The thin portion that comes out of the angle of the oſſa pubis, wherein the head of the penis joins with the ſpongy body of the urethra, and is thence continued laterally to the upper part of the bulb of the urethra.

g Its inſertion into the anterior edge of the laſt but one, and the laſt h, of the bones of the coccyx.

i k The place where the fibres of one muſcle are continuous with thoſe of the other, below the coccyx.

Add here Fig 34. and Fig. 31. a—k: and Fig. 32. a—g.

l l l The iſchium cut off, m m m n the os pubis, n o o the tubercle of the iſchium, which bone being cut out, the elevator comes into view.

FIGURE XXXIV.

The right elevator of the anus, a lateral view of its inner ſide.

a The tendon that forms its upper edge from the higheſt part of its origination at the os pubis, thro' the ſide of the pelvis, almoſt to the acute proceſs of the iſchium.

b c d Its origination from the inner ſide of the os pubis, (partly tendinous b c, and partly fleſhy c d) whence it goes round the origin of the obturator internus.

e Its origin from the inner part of the acute proceſs of the iſchium.

f The thin portion that comes out of the angle, in which the head of the penis joins with the ſpongy body of the urethra; and aſcends laterally to the upper part of the bulb of the urethra.

g Its

g Its inſertion into the anterior edge of the laſt but one, and the laſt h, of the bones of the coccyx.

i k The place where they are continuous with each other below the coccyx, tendinous at i, and fleſhy at k; from whence the left elevator is cut off.

Add here Fig. 33. and Fig. 31. a—k. and Fig. 32. a—g.

l The left os iſchium; m the os pubis.

FIGURE XXXV.

The external ſphincter of the anus, ſeen in its back part.

a The poſterior tip by which it adheres to the extremity of the coccyx, to which, from the anus b, the fibres meet together from each ſide in angles that point upwards, and are more acute as they aſcend higher.

Add here Fig. 36. a b c c.

The *ſyſtematic connexion* appears in Tab. VI. f in the lower part of the trunk. Then in Tab. V. *n* near the buttocks.

FIGURE XXXVI.

The external ſphincter of the anus, in its fore part.

a The fibres which meet together from each ſide, ſo as to form angles, that point upwards; being more acute as they aſcend higher, and more obtuſe as they are lower.

b The tip or tail in which it ends, and at laſt vaniſhes in the perinæum.

c c A portion that goes out above the 'foreſaid tip, into a ſort of triangular point that is attached to the lower part of the accelerators, where they are conjoined together.

Add here Fig. 35.

The *ſyſtematic connexion* appears in Tab. IV. θ in the trunk; where the tip or tail is hid by the declivity of a portion of the penis. Then in the ſame manner in the trunk of Tab. III. λ.

d The bulb of the urethra, going into the ſpongy body of the urethra e.

f The urethra with its ſpongy body cut off.

FIGURE XXXVII.

The accelerators, tranſverſus, firſt and ſecond of the perinæum, and the erectors of the penis.

a a b c c The *accelerators* inveſting the bulb of the urethra, where that is protuberant.

The one joins the other along the middle of the bulb b. And where they meet the fibres form angles, which are hardly to be perceived in the poſterior fibres, that meet almoſt in a direct courſe: the anterior fibres form angles more acute as they are farther from the poſterior ones.

e c The anterior tips or points by which they go off from the penis.

The reſt of the origination, from the middle of the upper ſide of the urethra, is not to be ſeen in the figure.

The *ſyſtematic connexion* appears in Tab. IV. *n n* in the trunk; where it is partly covered by the external ſphincter of the anus θ, partly by the tranſverſus of the perinæum *ι ι*; in part by the erectors of the penis ζ ζ: and part from the declivity of the portion of the penis is not to be ſeen. Then in Tab. III. *μ* in the trunk; where part is in like manner covered by the external ſphincter λ, and part by the erector penis *ν*.

d The *tranſverſus of the perinæum.*

e The end that joins partly with the accelerator, partly with the external ſphincter ani, and likewiſe uſually joins with its fellow.

Add here Fig. 38.

The *ſyſtematic connexion* appears in Tab. IV. *ι* in the trunk, where it goes under the external ſphincter of the anus θ.

f The *ſecond tranſverſus of the perinæum.*

i This bending its extremity to the erector penis, aroſe betwixt that and the accelerator, in the angle in which the head of the penis joins the bulb of the urethra.

Add here Fig. 39.

k l m. k l m The *erectors of the penis.*

l The tendinous end inſerted into the larger cavernous body of the penis at m m, beyond its head. But it is alſo inſerted into the head of the penis, where that does not lie under the oſſa pubis, almoſt all the way from the beginning of its ſaid head; and beyond the head it is inſerted as far as m m.

Add here Fig. 40.

The *ſyſtematic connection* appears in Tab. IV. ζ ζ in the trunk; where its end is not to be ſeen for the declivity of the portion of the penis.

n n o The penis. n n the larger cavernous or ſpongy bodies. o the ſpongy body of the urethra. p the penis cut off.

FIGURE XXXVIII.

The tranſverſus of the perinæum in its poſterior part.

a Its origin from the inner part of the tubercle of the iſchium.

Add here Fig. 37. d e.

The *ſyſtematic connexion* is in Tab. IV. h in the lower part of the trunk; where its end goes under the external ſphincter of the anus *n*, and lies hid behind the largeſt gluteus.

FIGURE XXXIX.

The ſecond tranſverſus of the perinæum in its back part.

a Its origin from the inner part of the os pubis, near about the middle, betwixt the tubercle of the iſchium, and ſynchondroſis of the os pubis.

Add

Add here Fig. 37. f i.

The *ſyſtematic connexion* is in Tab. IV. g in the lower part of the trunk: where its end goes under the elevator e of the anus: and what is there naked, in Tab. V. lies hid behind the largeſt gluteus γ.

FIGURE XL.

The erector of the penis in its back part.

a The tendinous beginning which ariſes at b b from the inner ſide of the tubercle of the iſchium, a little before it ends in the os pubis.

Add here Fig. 37. k l m.

MUSCLES OF THE BLADDER.

FIGURE XLI.

The muſcle of the bladder, laterally.

This muſcle, altho' I have found it in but a very few bodies, I thought proper to exhibit here, on account of its elegance. Whether or no is it that which formerly ſeemed to belong to the proſtrate, call'd its compreſſor?

a That part which aroſe from the inner ſide of the os pubis, almoſt in the middle ſpace betwixt the bottom edge of the ſynchondroſis and the uppermoſt part of the great foramen or hole, near the inner part of the origin of the elevator of the anus.

b Its incurvation round the ſide of the bladder, gradually expanding itſelf a little above the proſtrate, till at

c c It at laſt becomes exceeding thin, and continues itſelf with the fibres of the bladder, or rather goes into them.

d The bladder.

e The proſtrate.

f f The place from whence the left os pubis is cut off, and taken away with the reſt of the os innominatum, in order to expoſe this muſcle with the bladder and proſtrate to the view.

THE

Thirteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE ABDOMEN AND TESTICLE.

Add here Tab. 14.

FIGURE I.

The external obliquus of the abdomen, laterally.

a a The fleſhy part.

b c d d The firſt head. c the tendinous part of its origin. d d its origin from the fifth rib.

e f g g The ſecond head. f the tendinous part. g g its origin from the ſixth rib.

h i k k The third head. i the tendinous part. k k its origin from the ſeventh rib.

l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.

o p q q The fifth head. p the tendinous part. q q its origin from the ninth rib.

r s t t The ſixth head. s the tendinous part. t t its origin from the tenth rib.

u v w w x The ſeventh head. v the tendinous part. w w its origin from the eleventh rib. x the part which is connected with the beginning of the tranſverſe muſcle of the abdomen, there coming out from the ſaid tendinous part.

y z A The eighth head. z the tendinous part. A its origin from the twelfth rib.

The heads ariſe from the lower edge of each rib, with their ſides placed obliquely, and proceed forward and upward over the outer ſide of the rib towards its upper edge.

B B B B B C C D E E E E F F F G H H I K L M The tendinous expanſion.

C C The

C C The protuberance of the fleſhy part of the obliquus internus under the ſaid expanſion.

D the protuberance of the fleſhy part of the tranſverſus under the ſame, and alſo under the aponeuroſis of the internal obliquus.

E E E E The protuberance of the fleſhy body of the rectus.

F F F The places where the tendinous lines or interſections of the rectus appear thro' the aponeuroſes or tendinous expanſions of the two obliqui.

G The protuberance of the pyramidalis under the ſame aponeuroſes.

H H. I K The two portions into which the aponeuroſis divides itſelf, from whence it is continued even to the pubes under the appearance of diſtinct tendons; and betwixt them a ſlit or aperture is formed, thro' which paſſes the chord of the ſpermatic veſſels with the cremaſter muſcle.

K The place where the outer of the ſaid portions inſerts itſelf into a protuberance, that ſtands out in the upper and fore part of the os pubis, and into the adjacent ſpine that lies on the outer ſide of the ſaid protuberance: and partly it joins into the ligaments that lie on the inner ſide of the ſaid protuberance, and which inveſt the fore part of the ſynchondroſis or cartilaginous juncture of the oſſa pubis.

L The thin expanſion that goes from one of the foreſaid tendons to the other, and conjoins them together. Under that expanſion the chord of the ſpermatic veſſels paſſes along, accompany'd with the beginning of the cremaſter muſcle; which both come out at M.

N N The lower tendinous edge, extended from the anterior extremity of the ſpine of the ilium to the pubes.

O P An aponeuroſis or tendinous part, P Q the part which is fleſhy, and in ſome bodies is extenuated into a tendinous end, inſerted along the upper and outer edge of the fore part of the ſpine of the os ilium.

R The aponeuroſis inſerted into the cartilage of the ſixth rib.

For the manner in which the upper part of the aponeuroſis is inſerted into the bottom of the ſternum, ſee Tab. I. 5 in the trunk.

Add here Fig. 2. following.

The *ſyſtematic connexion* appears in Tab. IX. S, &c. in the trunk; where its upper part lies under the pectoralis H I; its heads under the ſerratus major N R O R P R Q, and under the latiſſimus dorſi Ω E D, and betwixt D and C.

FIGURE II.

The external obliquus of the abdomen, anteriorly.

a a The fleſhy body.

b c d d The firſt head. c the tendinous part. d d its origin from the fifth rib.

e f g g The ſecond head. f the tendinous part. g g its origin from the ſixth rib.

h i k k The third head. i the tendinous part. k k its origin from the ſeventh rib.

l m n n The

l m n n The fourth head. m the tendinous part. n n its origin from the eighth rib.

o p The fifth head. p its origin from the ninth rib.

q q q q q r r s t t t t u u u v v w w x x y y z A B B B C D E F F F G H I K The aponeuroſis or tendinous expanſion of this muſcle.

r r The part where the fleſh of the internal obliquus is protuberant under the ſame aponeuroſis.

s The place where the fleſh of the tranſverſe is protuberant under the ſaid aponeuroſis, and alſo under that of the obliquus internus.

t t t t The protuberances of the fleſhy portions of the rectus.

u u u u The appearances of the tendinous lines or interſections of the rectus, thro' the aponeuroſes of the obliquus externus and internus.

v The protuberance of the pyramidalis under the ſame.

w w The lower tendinous edge, which goes from the extremity of the fore part of the ſpine of the ilium to the pubes.

x x. y y The two portions into which the aponeuroſis divides itſelf, and is thence continued to the pubes, under the appearance of two diſtinct tendons: and thro' this diviſion or fiſſure, it is that the chord of the ſpermatic veſſels with the cremaſter muſcle paſs out to the ſcrotum; and in women it gives a paſſage to the round ligament of the uterus.

z The thin expanſion extended from one of the foreſaid tendons to the other, and connecting them together all the way from the place where they firſt divide or recede from each other. Under this expanſion the chord of the ſpermatic veſſels and beginning of the cremaſter muſcle paſs along. And below this, juſt above the pubes, the ſpermatic chord paſſes out thro' the ſmall oblique ring A of this tendon, being a ſpace left betwixt the expanſion z, the tendons x. y, and the os pubis.

B. B. B. &c. Slender, remote tendinous threads, which croſs thoſe fibres of the aponeuroſis, that run in the ſame direction with the muſcle. Theſe compoſe the expanſion z, which runs from one tendon y y, to the other x x, at the pubes.

C The uppermoſt part of the aponeuroſis, inſerted into the fore part of the cartilage of the ſixth rib.

D The part which is inſerted into the fore ſide of the end of the cartilage of the ſeventh rib.

E The part inſerted into the bone of the enſiform cartilage.

E F F F The linea alba, in which the aponeuroſes of the two external oblique muſcles of the abdomen croſs each other, are intermixed, and alſo conjoined with the ſubjacent aponeuroſes of the internal obliqui.

G The opening in the linea alba, thro' which the umbilical veſſels paſſed out in the fœtus.

H The place where the right and left aponeuroſes, running down from above, croſs each other, and are intermixed with the ligaments which inveſt the fore part of the ſynchondoſis of the pubis.

I The lowermoſt portion running down and mixing itſelf with the ligaments, which inveſt the fore part of the ſynchondroſis of the pubis, and inſerting itſelf with them into the oppoſite bone of the pubes.

Add

Add here Fig. 1.

The *ſyſtematic connexion* appears in Tab. I. d, &c. in the trunk; where in its upper part it lies under the pectoralis ξ in the trunk, its heads lie under thoſe of the ſerratus major ω a b, then under the latiſſimus dorſi τ υ. Its poſterior part appears in Tab. V. W in the back, where it is partly covered by the latiſſimus dorſi P Q.

L The ſynchondroſis or cartilaginous juncture of the oſſa pubis, inveſted or tyed together in the fore part by ligaments.

FIGURE III.

The internal obliquus of the abdomen, in its back part.

a a The broad tendon which begins by aponeuroſes, the outermoſt of which lies under the broad tendon i of the latiſſimus dorſi, which is ſpread over and attached to it.

b b The tendinous beginning ariſing from the upper part of the ſpine of the ilium.

c The fleſhy part.

d e The extremity that is inſerted into the outer part of the lower edge of the twelfth rib; d part of the bony end of that rib, e the cartilaginous part.

f g The end inſerted into the outer part of the lower edge of the eleventh rib, f part of its bony end, g its cartilaginous extremity.

h The end that belongs to the tenth rib.

i The broad tendon by which the latiſſimus dorſi begins: which tendon ſee in Tab. XVIII. Fig. 2.

k k The place from whence the broad tendon of the latiſſimus dorſi is cut off, where that tendon no longer coheres with the broad tendinous beginning of the obliquus internus.

Add here Fig. 4. and 5.

The *ſyſtematic connexion* appears in Tab. VI. M, &c. in the lower part of the trunk; where as here it is covered at its beginning by the broad tendon U of the latiſſimus dorſi. And what part of it appears naked in that table, in Tab. V. lies under the latiſſimus dorſi P Q, and the external oblique muſcle, W in the back.

FIGURE IV.

The internal obliquus of the abdomen, with the cremaſter.

a The fleſhy part.

b The origin from the upper part of the ſpine of the ilium.

c c The margin that ſprings from the tendinous edge of the obliquus externus.

d d The fleſhy part inſerted into the lower margin of the cartilage of the tenth rib.

e e e The aponeuroſis as yet ſingle, before it reaches the rectus, and inſerted at f f into the lower part of the cartilage of the ninth rib.

g g g h The anterior lamella or plate of thoſe two, into which the aponeuroſis divides near the rectus.

h The inſertion of the ſaid anterior lamella into the lower part of the ninth rib.

Betwixt the lower g and lower i, that part of the aponeuroſis that is below the middle ſpace betwixt the navel and ſynchondroſis of the pubis, continues ſingle, and is joined in its back part with the aponeuroſis of the tranſverſus, and together with that goes before the rectus.

i i i Here the anterior lamella or plate, continuous with the lower part of the aponeuroſis, which as yet continues ſingle, is cut off according to the length of the abdomen, in the part where it firſt joins itſelf with the aponeuroſis of the external obliquus; while the poſterior part or lamella of it continues to inveſt the abdomen as far as the linea alba. And above, the anterior lamella diſappears along the margin of the thorax in the aponeuroſis itſelf of the obliquus externus. Below, this aponeuroſis inſerts itſelf, with the aponeuroſis of the external obliquus, into the ſpine, tubercle, and ligaments of the pubis.

k k The poſterior of thoſe two lamellæ into which the aponeuroſis divides itſelf near the rectus; whence it paſſes behind the rectus. In the upper part of it ſome ſlender fibres appear croſſing its principal fibres.

l m n Its inſertion into the lower margin of the thorax, which is formed by the cartilages of the ſeventh and eighth ribs n m, and m l.

o p Its inſertion into the lateral margin of the bony part of the enſiform cartilage; and into the ſame ſide of that cartilage itſelf, at p q. q r its inſertion into the fore part of the cartilage not far from its point.

s s s Its termination in the linea alba.

t Part of the fleſh, under which runs the chord of the ſpermatic veſſels, a little protuberating and conſpicuous thro' the ſame. This portion runs afterward for ſome length upon the ſpermatic chord.

u The portion which ends in the beginning of the cremaſter; and behind which the ſpermatic chord y paſſes out.

Add here Fig. 3, and 5.

The *ſyſtematic connexion* appears in Tab. II. M, &c. in the trunk; where the upper and larger part of the poſterior of thoſe plates (into which the aponeuroſis divides itſelf at the rectus,) lies hid behind the rectus Z Z, &c. and below the ſpermatic chord r, the beginning of the cremaſter q, goes down before it, as here. But in Tab. I. it lies behind the external obliquus d, &c. in the trunk.

v w x x The cremaſter muſcle.

w Its origin or beginning from the internal obliquus, from whence it joins itſelf to the chord of the ſpermatic veſſels.

x x Its lower extremity extenuated and inſerted into the vaginal tunica of the teſticle. But in other bodies we have found it terminating otherwiſe: ſee our hiſtory of the muſcles, Lib. III. Cap. 80.

Add here Fig. 5.

The

The *ſyſtematic connexion* of the cremaſter appears in Tab. II. p q in the trunk: where, as here, part of it lies behind the chord of the ſpermatic veſſels, and teſticle. Then in Tab. I. z in the trunk; where the beginning lies hid behind the aponeuroſis of the external obliquus of the abdomen x.

y The chord of the ſpermatic veſſels.

z The ſynchondroſis of the oſſa pubis, conſtringed or tied together in their fore part by ligaments.

FIGURE V.

The internal obliquus of the abdomen, laterally.

a The outermoſt aponeuroſis of thoſe two by which it begins, and which lines the inner ſide of the broad tendon by which the latiſſimus dorſi begins; ariſing with that from the ſpines of the three lower vertebræ of the loins, and the following ſpines of the os ſacrum; alſo from the upper part of the ſpine of the ilium b b.

For the inner of thoſe aponeuroſes by which it begins, ſee Tab. XIV. Fig. 3.

c c The broad tendon in which its double aponeuroſis conjoins itſelf.

d d Its origin by a tendinous beginning from the upper part of the ſpine of the ilium.

e e The part which goes off from the margin of the external obliquus of the abdomen.

f f The fleſhy part.

g h Its inſertion into the outer part of the lower margin of the twelfth rib: as well into part of its bony extremity g, as its cartilage h.

i The edge that goes along the ſide of the eleventh internal intercoſtal muſcle.

k l Its inſertion into the outer part of the lower margin of the eleventh rib: into the end of its bony part k, and its cartilaginous part l.

m The edge that aſcends along with the tenth internal intercoſtal muſcle.

n n Its inſertion into the lower part of the cartilage of the tenth rib.

o o o The aponeuroſis which is ſingle in this part, before it reaches the rectus. And here the margin of it at p aſcends along with the ninth internal intercoſtal muſcle, and is then fixed at q q into the lower margin of the cartilage of the ninth rib.

r r The anterior of thoſe two lamellæ, into which the ſaid aponeuroſis divides itſelf near the rectus.

Betwixt the loweſt r and loweſt s, that part of the aponeuroſis that is below the middle ſpace betwixt the navel and ſynchondroſis of the oſſa pubis, continues ſingle, and is joined in its back part with the aponeuroſis of the tranſverſus, paſſing along with that before the rectus.

s s s Here the anterior lamella or plate, continuous with the lower part of the aponeuroſis that as yet remains ſingle, is cut off according to the length of the abdomen, in the place where it firſt conjoins itſelf with the aponeuroſis of the external obliquus of the abdomen; the poſterior portion of it inveſting the abdomen even as far as the linea alba.

t t t The poſterior of thoſe two lamellæ, into which the aponeuroſis divides itſelf near the rectus, and which goes behind the rectus. In the upper part of this lamella, ſome ſlender tendinous threads croſs the principal fibres of it.

u Part of its fleſh, under which runs the chord of the ſpermatic veſſels, a little protuberant and conſpicuous thro' the ſame.

v The part that ends in the beginning of the cremaſter.

Add here Fig. 3. and 4.

The *ſyſtematic connexion* appears in Tab. IX. where it lies behind the external obliquus of the abdomen S, &c. in the trunk, and behind the latiſſimus dorſi Ω A.

w The beginning of the cremaſter muſcle, going off from the internal obliquus.

x The chord of the ſpermatic veſſels.

y The cremaſter muſcle, with the chord of the ſpermatic veſſels cut off.

The *ſyſtematic connexion* of the cremaſter muſcle appears in Tab. IX. l in the trunk; where its beginning lies hid behind the aponeuroſis of the external oblique muſcle of the abdomen f.

FIGURE VI.

The rectus muſcle of the abdomen.

a b c The principal tendon by which it begins, and which ſprings at b from the upper and fore part of the ligament, that inveſts or ties together the fore part of the ſynchondroſis of the oſſa pubis: and at c there is a ſmall portion ariſes from the adjacent os pubis.

d e The ſecond and longer tendon, by which it ariſes from the fore part of the ſame ligament, and conjoins into one with the tendon a.

f g h i The four fleſhy portions or bellies.

k The half tendinous line or interſection, that is below the navel.

l The tendinous line, that is in the umbilical region.

m The tendinous line, that is in the middle betwixt the navel and the place where the rectus firſt climes upon the thorax.

n The tendinous line, that is ſeated where the rectus firſt aſcends, or is about to aſcend upon the thorax.

o o The extremity inſerted into the lower and next adjacent outer part of the cartilaginous end of the ſeventh rib.

p p The end that is inſerted into the outer part of the lower margin of the cartilage of the ſixth rib, near the middle of its length, and on the outer ſide of the former end.

q q The end that is inſerted into the outer and lower part of the cartilage of the fifth rib, almoſt where that cartilage begins, and on the outer ſide of the ſecond end.

The *ſyſtematic connexion* appears in Tab. II. Z Z, &c. in the right ſide of the trunk; where at its origin it lies behind the pyramidalis l; in the left ſide alſo it is in part covered by the anterior of thoſe two lamellæ, into which the aponeuroſis of the internal obliquus divides itſelf near the rectus; but beneath it lies

lies the common aponeuroſis of the obliqui and tranſverſus, of which that part only can be ſeen here, that is formed by the anterior of thoſe lamellæ, into which the aponeuroſis of the obliquus internus divides itſelf near the rectus, W X, &c. But in Tab. I. the reſt of it lies under the common aponeuroſis of the obliqui and tranſverſi, and then under the common aponeuroſis of the obliqui, of which that part only can be ſeen, which is formed by the aponeuroſis of the obliquus externus, o p, &c. in the trunk: and where it climes upon the thorax only that of the aponeuroſis of the external obliquus can be ſeen: and laſtly under the aponeuroſis of the pectoralis muſcle ξ in the trunk.

r The ſynchondroſis of the oſſa pubis, conſtringed or tied together with ligaments.

FIGURE VII.

The pyramidalis muſcle of the abdomen.

a b The tendinous origin by which it ſprings from the upper part of the ligament, that ties together the fore part of the ſynchondroſis of the oſſa pubis; and from the next adjacent part of the os pubis at b.

c The fleſhy part.

d The broad extremity that belongs to the linea alba.

The *ſyſtematic connexion* appears in Tab. II. l m in the trunk; where it is partly cover'd by the common aponeuroſis of the tranſverſus and obliqui, of which only the anterior of thoſe two plates can be ſeen, into which the aponeuroſis of the internal obliquus divides itſelf Y Q in the trunk. And what there appears naked (*i. e.* in Tab. II.) lies under the foreſaid common aponeuroſis in Tab. I. of which aponeuroſis only that part can be ſeen, which belongs to the external obliquus, q w in the trunk.

e The ſynchondroſis of the oſſa pubis, inveſted or conſtringed by ligaments.

THE

Fourteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

THE REMAINING MUSCLES OF THE ABDOMEN.

Add here Tab. XIII.

FIGURE I.

The fore part of the tranſverſus of the abdomen, with the triangularis of the ſternum.

a—v The *triangularis of the ſternum.*

a b c d The tendinous beginning of the head, which ariſes from the inner part of the third rib, from the end of its bony part b c, and beginning of its cartilaginous part c d.

e f g h The tendinous beginning of the head, which ariſes from the inner part of the fourth rib; from the end of its bony part f g, and from the beginning of its cartilage g h.

i k l m The tendinous beginning of the head, which ariſes from the inner part of the fifth rib, from the end of its bony part k l, and from the beginning of its cartilage l m.

n n The tendinous part which is formed by the fleſhy portion, that ariſes from the conjunction of the two upper heads; and which in ſome bodies is joined with the tendinous end of the lower head u u, and in others is ſeparate. 'Tis inſerted into the inner part o of the extreme cartilage of the fourth rib, and of the breaſt bone p, betwixt the ends of the cartilages of the fourth and fifth ribs, alſo of the extreme cartilage of the fifth rib q; of the breaſt-bone betwixt the ends of the cartilages of the fifth and ſixth ribs; alſo into the inner ſide of the cartilaginous end of the ſixth and ſeventh rib.

u u The tendinous end in which the fleſh of the third head terminates: inſerted at v into the edge of the bone of the enſiform cartilage. But the manner in which it continues to be inſerted into the reſt of the edge of that bone,

as

as far as the enſiform cartilage, and into the edge of the ſaid cartilage itſelf, cannot be ſeen in this figure, becauſe the inner plate of the aponeuroſis belonging to the internal obliquus of the abdomen π, is here ſpread over it. But you may ſee Tab. X. Fig. 24. v w.

The *ſyſtematic connexion* appears in Tab. III. x in the trunk, where its end is ſpread over the inner plate of the aponeuroſis of the internal obliquus of the abdomen s: and the reſt lies under the ribs, ſternum, and the internal intercoſtals, as the ſixth h, the fifth b, the fourth a, and the third Z. But what appears there naked, lies under part of the plate of the aponeuroſis belonging to the internal obliquus, here cut off. In its back part ſee Tab. X. Fig. 24.

w—ν The *tranſverſus of the abdomen.*

w The firſt head ariſing tendinous from the inner part of the ſixth rib; from its bony end y, and its contiguous cartilage z. This head may be referred to the triangularis, as it joins ſooner and in a more ſimilar courſe with the lower head of that muſcle, than with the head which next follows it.

α The ſecond head ariſing tendinous at β from the inner part of the cartilage of the ſeventh rib γ γ.

$\delta\delta\delta\delta$ The beginning that is ſplit into ſeveral portions (into four here) which ariſe from the inner part of the cartilage of the eighth rib $\delta\delta\delta\delta$.

ε The aponeuroſis by which it comes from the ſpace betwixt the eighth and ninth rib. See Fig. 2. i.

ζ The origin from the inner part of the cartilage of the ninth rib.

η The aponeuroſis that comes from the ſpace betwixt the ninth and tenth rib. See Fig. 2. m.

θ The origin from the inner part of the cartilage of the tenth rib.

ι The origin from the inner part of the cartilage of the eleventh rib.

$\varkappa$ The origin from the ſpine of the ilium.

$\lambda\lambda$ The edge that ſprings from the tendinous margin of the external obliquus of the abdomen.

μ The fleſhy part. $\nu\nu$ the aponeuroſis in which it ends.

Add here Fig. 2, and 3.

The *ſyſtematic connexion* appears in Tab. III. l—q in the trunk; where its heads lie under the ribs: the firſt of them under the fifth internal intercoſtal b, and ſixth h; the fourth under the eighth e, the fifth under the ninth f. The reſt in Tab. II. lies under the internal obliquus M, &c. in the trunk.

$\xi\xi\xi$ The poſterior plate of the aponeuroſis of the internal obliquus cut off, where it firſt joins itſelf with the aponeuroſis of the tranſverſus, and with the tendinous end of the triangularis ſterni.

$o\,o$ The aponeuroſis of the internal obliquus cut off, where it firſt joins itſelf with that part of the aponeuroſis of the tranſverſus, which goes before the rectus and pyramidalis.

π The poſterior plate of the aponeuroſis of the internal obliquus of the abdomen, ſpread over that part of the aponeuroſis of the tranſverſus which lies under the rectus; and together with that is inſerted at ρ into the fore part of the enſiform cartilage, near its tip; and into the lower part of the edge of the ſaid cartilage at σ; alſo into its upper edge and bony edge τ, joined with the tendinous end of the triangularis ſterni.

Add

Add here Fig. 2. and Tab. XIII. Fig. 4.

υ The aponeuroſis of the internal obliquus where it is ſingle, and ſpread over that part of the aponeuroſis of the tranſverſus, which goes before the rectus and pyramidalis.

Add here Fig. 2. and Tab. XIII. Fig. 4.

φ φ φ χ χ The inſertion of the aponeuroſis of the tranſverſus, (with the aponeuroſis of the obliquus internus that is ſpread over it) into the linea alba.

ψ The fiſſure or opening in the aponeuroſis of the tranſverſus, about its middle part, betwixt the navel and ſynchondroſis of the pubis: and this is formed by a tranſverſe ſeparation of the aponeuroſis, extended to the linea alba, by which the upper part of the aponeuroſis, that goes behind the rectus is ſevered from the lower, that goes before the rectus and pyramidalis. The rectus therefore paſſes thro' this fiſſure, to the ſize and figure of which it correſponds. But there is alſo found a thin continuation of the aponeuroſis behind the lower part of the rectus, in ſome thicker, in others thinner, and in ſome more or leſs in a manner diſcontinued, and more or leſs in its breadth.

ω ω The linea alba, from whence at A A is cut off the aponeuroſis of the obliquus externus, with the anterior lamella or plate of the aponeuroſis of the obliquus internus.

B, &c. The ribs here cut off; C D E F the cartilages of thoſe ribs, C of the fourth, D of the fifth, E of the ſixth, F of the ſeventh; G G the breaſt bone cut off, to ſhew the triangularis and tranſverſus that are ſeated behind it.

FIGURE II.

The tranſverſus of the abdomen, laterally.

a b c d The firſt head. a the fleſhy part. b the tendinous beginning ariſing from the ſixth rib; from the end of the bony part c, and from its contiguous cartilage d.

e f g The ſecond head. e the fleſhy part. f the tendinous beginning ariſing at g from the inner part of the cartilage of the ſeventh rib.

h h h h The beginning that is ſplit into ſeveral (here four) parts, ariſing from the inner part of the cartilage of the eighth rib h h h h.

i The aponeuroſis that comes from the ſpace betwixt the eighth and ninth rib, from the inner ſurface of the internal intercoſtal, and partly from the ninth rib itſelf. k the part cut off; for it has a longer thin origin.

l The origin from the inner part of the cartilage of the ninth rib.

m The aponeuroſis that comes from the interval betwixt the ninth and tenth rib; like i.

n The origin from the inner part of the cartilage of the tenth rib.

o The aponeuroſis that comes from the interval betwixt the tenth and eleventh rib; like i.

p The origin from the inner part of the cartilage of the eleventh rib.

q The aponeuroſis that comes from the interval of the eleventh and twelfth rib; like i.

r The

r The origin from the inner part of the extreme cartilage of the twelfth rib, tendinous.

s The broad tendon by which it begins in the loins. t the fleſhy part.

u u The edge that comes from the tendinous margin of the internal obliquus of the abdomen.

v The aponeuroſis in which the fleſh ends.

Add here Fig. 1. and 3.

w w The poſterior lamella of the aponeuroſis of the internal obliquus cut off, ξ ξ ξ Fig. 1.

x x The aponeuroſis of the internal obliquus cut off, ο ο Fig. 1.

y The poſterior lamella of the aponeuroſis of the internal obliquus, π Fig. 1.

z The aponeuroſis of the internal obliquus where it remains ſingle; υ Fig. 1.

A the ſlit in the aponeuroſis of the tranſverſus, ψ Fig. 1.

B B &c. The ribs here cut off, to ſhew the tranſverſus that is ſeated behind them.

FIGURE III.

The tranſverſus of the abdomen, in its back part.

a—r The origins of the broad tendon, by which the tranſverſus begins, together with the origins of the inner plate, which being common to the aponeuroſis of the internal obliquus and lower poſterior ſerratus, ſprings from the tranſverſe proceſſes of the ſecond, third, and fourth vertebra of the loins.

The *ſyſtematic connexion* appears in Tab. VII. where they lie under the communis capitis, ſacrolumbalis, and longiſſimus dorſi, δ ε in the trunk.

a The tendinous head of the tranſverſus, which ariſes at b b from the outer part of the lower edge of the twelfth rib, and at c from the poſterior extremity of the tranſverſe proceſs of the fifth vertebra of the loins.

d e f g h h i i The tendinous head which ariſes at e f from the poſterior part of the end of the tranſverſe proceſs of the fourth lumbal vertebra. g is a thin tendon ſpread over it, and ariſing with it from the tranſverſe proceſs at f, and alſo at h h goes off from the head itſelf, and is inſerted at i i into the outer part of the lower edge of the twelfth rib.

k l m n o o A like tendinous head which ariſes at l m from the outer part of the end of the tranſverſe proceſs of the third lumbal vertebra. n a thin tendon like the former, with which it is covered, and ariſes with it at m, but departs from it at o o.

p q The tendinous head, upon all of which is ſpread the thin tendon, ariſing with it at q from the back part of the end of the tranſverſe proceſs of the ſecond lumbal vertebra.

r r The place where the fibres croſs each other, and are interwove in a manner too obſcure to be repreſented; but chiefly, in this manner, as in the body whence this figure was taken; varying more or leſs in others.

s s The part whence is cut off the outer plate of the aponeuroſis, common to the ſerratus poſticus inferior, and the internal obliquus of the abdomen.

t t The

t t The aponeurosis common to the posterior lower serratus, and internal obliquus; cut off at u u, where it no longer coheres with the broad tendon by which the transversus begins.

v The broad tendon by which the transversus begins, adhering to the lower edge of the twelfth rib; to its bony part w x, and its cartilage x y to the tip.

z The origin from the inner part of the cartilage of the twelfth rib, beginning tendinous.

α The aponeurosis q Fig. 2. here cut off at β.

γ The fleshy part.

Add here Fig. 2. and 1.

The *systematic connexion* appears in Tab. VII. Y Z in the trunk; where in part it lies under the aponeurosis, common to the posterior lower serratus, and internal obliquus of the abdomen γ γ; and under the tenth internal intercostal X. But what there appears naked, in Tab. VI. lies hid behind the posterior lower serratus C K, and the internal obliquus M N in the trunk.

ε The cartilage of the twelfth rib cut off.

FIGURE IV.

The diaphragm, laterally.

a The second fleshy portion of the left side, that goes into the left lateral end.

b b Its end inserted into the inner part of the the cartilage of the seventh rib.

c c That which is inserted into the inner part of the cartilage of the eighth rib.

d e f That to the inner side of the ninth rib, its cartilaginous part d e, and its bony part e f. d the tendinous part of this end.

g h i That to the inner part of the tenth rib, to its cartilaginous part g h, and its bony part h i. g the tendinous part of this end.

k l m That which in part belongs k l to the ligament w, and in part l m is inserted into the inner side of the bony part of the eleventh rib, near its cartilage. l the tendinous part.

n o p That whose part n o belongs to the ligament v, and part o p is inserted into the inner side of the twelfth rib: into its cartilage o, and its bony part o p. o the tendinous portion.

q r r r s The aponeurosis marked p – s Fig. 7. here q r r r denote the tendinous part, r r r s the fleshy part.

t t The middle tendon of the diaphragm.

u The large left head, a æ b c Fig 5.

Add here Fig. 5. 6. and 7.

v The ligament that is extended almost from the tip of the cartilage of the twelfth rib, to the bony part of the eleventh near its cartilage.

w The ligament that is extended almost from the beginning of the cartilage of the eleventh rib, to the bony part of the tenth rib near its cartilage.

x, &c.

x. &c. The ribs cut off to ſhew the diaphragm that is ſeated behind them.

FIGURE V.

The diaphragm in its fore part.

a æ b c d. a æ b c d The two firſt heads of which the left is leſs than the right. a a the thin tendinous part which ariſing from the ligaments that run along the ſurface of the bodies of the lumbal vertebræ, joins the diaphragm outwardly. æ æ here theſe heads ariſe beneath with thick tendons at c c from the lower part of the body of the third vertebra of the loins, and particularly from the ſides of its fore part. In others as here, at b b they ariſe from the upper part of the body of the ſecond vertebra. Some have theſe tendons on each ſide divided into two; others have fleſhy portions on each ſide, as at d d in which the ſaid tendons enter on the outer ſides. The beginnings which uſually join theſe heads from behind them are not here viſible, as they lie underneath them.

e f g. e f g The ſecond head ariſing tendinous at e e from the ligament f, that is interpoſed betwixt the bodies of the third and fourth vertebra of the loins. g g the fleſhy portions in which they end.

h i k. h i k The third head ariſing tendinous at h h, from the ſides of the upper margin of the body of the fourth lumbal vertebra. k k the fleſhy parts in which they end.

l m n The fourth head of the left ſide. l the tendinous beginning, ariſing at m from the fore part of the root of the tranſverſe proceſs of the fourth lumbal vertebra. n the fleſh in which it ends.

o o A beginning that is ſometimes found, ſpringing from the ſurface of the quadratus lumborum.

p p The firſt fleſhy portions of the diaphragm formed by the conjunction of its heads.

q A portion of the firſt left head that joins the fleſhy part of the firſt on the right ſide, and afterwards runs along thro' the right ſide of the hole, by which the gula or œſophagus comes out of the thorax.

r Part of the firſt right head, which going along behind the portion q croſſes the ſame, and goes into the firſt left fleſhy portion; ſo that it occaſions a croſſing of many of the faſciculi or bundles of fibres.

s The hole thro' which the œſophagus comes out of the thorax into the abdomen.

t Part of its middle tendon.

u u u u The ſecond fleſhy part on the left ſide. See Fig. 6.

v v v v w w The ſecond fleſhy part on the right ſide, climbing over the firſt at w w, croſſing the ſame and ſoon after becoming tendinous.

x y z α β A portion as I have ſometimes found it in one and ſometimes in both ſides, forming the lower margin of the diaphragm on this ſide; and which here ariſes (but differently in others) from the tranſverſe proceſs of the fourth lumbal vertebra y, and alſo from the fifth; and firſt tendinous at x

(but differently both in ſubſtance and figure in various bodies) then fleſhy at z, and joining the ſecond fleſhy portion v, unites with the ſame behind α, and is inſerted at β into the cartilage of the 12th rib.

γ γ The margin cut off, which is marked C C in Fig. 6.

δ The anterior point of the middle tendon in which it ends, and wherein the fibres croſs each other.

ε The middle fleſhy end which is extended along the inner part of the enſiform cartilage almoſt to its end ζ ζ.

η θ The two ſecond fleſhy portions; which go into two lateral ends.

ι ι The extremities of them which connect themſelves to the peritonæum.

κ κ The end inſerted into the inner part of the cartilage of the ſeventh rib. 'Tis cut off from thence at λ λ.

μ μ That inſerted into the inner part of the cartilage of the eighth rib. 'Tis cut off from thence at ν ν.

ξ ξ That inſerted into the inner part of the cartilage of the ninth rib. 'Tis cut off from thence at ο ο.

π That inſerted into the inner part of the cartilage of the tenth rib. 'Tis cut off from thence at ϱ.

σ σ The ends inſerted into the inner part of the cartilage of the eleventh rib.

Add here Fig 6. 7. and 4.

The *ſyſtematic connexion* appears in Tab. IV. M—o in the trunk; where the left fourth head lies in part under the pſoas magnus t; the right under the pſoas parvus r, and the magnus t; the firſt head in part under the great pſoas, betwixt v and w.

τ τ, &c. Here the ribs are cut off, to ſhew the diaphragm that lies behind them.

υ υ υ The enſiform cartilage cut off: φ its cartilage, χ χ its bony part.

FIGURE VI.

The poſterior part of the diaphragm, view'd from before.

a æ b c d. a æ b c d The two firſt heads, as in Fig. 5.
e f g. e f g The ſecond heads, e f g. e f g Fig. 5.
h i k. h i k The third heads, as in Fig. 5.
l m n The left fourth head, as in Fig. 5.
o o The beginning, ſo marked in Fig. 5.

p The firſt left fleſhy portion of the diaphragm; q the right: formed by a conjunction of the heads, and at length occupying the whole poſterior lunated edge of its tendon.

r r The part which comes from the tranſverſe proceſs of the fourth lumbal vertebra, as at l m n; but it goes behind the part D E F; as in Fig. 7. e f.

s A portion of the firſt left head, joining the firſt right fleſhy part; q Fig. 5.

t Part of the firſt right head, going into the firſt left fleſhy part: r Fig. 5.

u The hole in the firſt fleſhy part, thro' which the gula paſſes.

v The

v The upper angle of that hole, where the right and left fibres croſs each other; the right being anterior.

w w w x y The left part of the middle tendon. x part of the tendon climbing over the reſt w, and croſſing it. y a portion that runs over the part x, croſſes it, and goes into the lower part of the ſecond left fleſhy portion.

z A certain aponeuroſis that is ſtretched round the lateral tendon from the fleſh, which is at the poſterior point of the left tendon, coming forwards and croſſing the fibres of the tendon, and ending forwards in the anterior fleſhy portion.

α Part of the aponeuroſis v x x x, Fig. 7. penetrating to the lower part of the tendon; and receiving (when it has penetrated) a portion from the lower part of the tendon, near the left opening for the gula, it bends to the right and goes above the ſaid foramen at β to the fore part of the right fleſhy end; and in part runs at γ along the anterior edge of the hole for the cava; and joins itſelf to the aponeuroſis τ.

δ A portion joining the aponeuroſis α, and coming from the firſt left fleſhy portion, near the beginning of the tendon.

ε ε ζ ζ η Tendinous fibres, which come out at ε ε from the tendon w, and backwards is partly interwove with the tendon ζ ζ, and partly continued on η.

θ θ Part of the ſecond left fleſhy portion, to which the tendon w w w x y goes.

ι κ Its end inſerted into the lower part of the twelfth rib, into its bony part ι, and its cartilage κ.

λ λ The edge cut off where it was joined to the tranſverſus of the abdomen, betwixt the two laſt ribs: but otherwiſe it ariſes from the ligament v, Fig. 4.

μ μ μ The right portion of the middle tendon, formed by the firſt right fleſhy part.

ν The broad aponeuroſis coming from the fleſh at the poſterior point of the right tendon, and continued to the firſt fleſhy portion ξ ο, but coming out from the tendinous fibres ο π near the ſecond, whence it goes forwards croſſing the fibres of the tendon; and in the fore part at ρ ρ, partly interweaves itſelf with the tendon, partly ends in the anterior fleſh σ σ σ, and partly runs on along the right ſide of the hole for the cava.

υ υ υ The aponeuroſis μ μ μ μ, Fig. 7. penetrating (near the bottom of the hole for the cava) to the lower part of the tendon; and afterwards bending itſelf round the left ſide of that hole, goes to its edge. Behind it runs thro' the anterior point of the tendon.

χ The ſame as marked A, Fig. 7.

ψ The tendinous part into which the firſt right fleſhy part joins, and croſſes the left in the upper angle of the hole, thro' which the gula paſſes; and which afterwards runs behind the tendon β, and then along the lower part of the tendon ω.

A The tendinous margin that belongs to the back part of the hole, thro' which the vena cava paſſes, formed chiefly by that part of the tendon which goes to the right from the firſt fleſhy portion to the ſecond. It is marked B Fig. 7.

B B The ſecond right fleſhy portion in which the tendon μ μ μ ends.

C C Its margin cut off, marked λ λ in the left ſide.

D E F G H The portion x—β in Fig. 5. E its origin, D the tendinous part, F the fleſhy part, conjoined at G with the ſecond fleſhy portion B, and inſerted at H into the cartilage of the twelfth rib.

I The hole in the tendon thro' which the vena cava paſſes.

K K K K The anterior part of the diaphragm cut off from this circumference.

Add here Fig. 5. 7. and 4.

FIGURE VII.

The diaphragm, in its back part.

a b The two firſt heads.

c d. e f The ſecond heads. c. e the tendinous origins. d. f the fleſhy parts.

g The beginning marked o o Fig. 5.

h Part of the firſt right head, that joins the firſt left fleſhy portion.

i The fleſh that is formed by part of the firſt right head, joined with a portion of the firſt right head q Fig. 5. and s Fig. 6.

k l The firſt fleſhy parts, k the right, l the left.

m Part of the firſt left fleſhy portion, croſſing the right in the upper angle of the hole, thro' which the gula paſſes.

n The hole in the firſt fleſhy part, thro' which the gula paſſes.

o o o The left part of the middle tendon, formed of the firſt fleſhy part.

p, &c. The broad aponeuroſis which being gradually formed by the fleſh at the ſide of the broad tendon p p p, thence along the lateral edge of the tendon, and thro' the beginning of the ſecond fleſhy portion betwixt p p p q and r r r; and thro' the tendon betwixt r r r and s s s it goes to the poſterior tip of the tendon, and paſſing round the ſame, it continues itſelf partly beneath at t to the firſt fleſhy portion, and partly goes on at v along the poſterior lunated edge of the tendon: and at x x x penetrates into the lower part of the tendon, and forms α Fig. 6. at laſt it runs to the right at w along the upper part of the hole for the cava. at u u the faſciculi croſs each other.

y The broad aponeuroſis which ariſing from the firſt left fleſhy portion, comes out here at v from under the aponeuroſis z z; and being for a long way conjoined at s s s with the aponeuroſis p p p q r r r s s s, then departs from it, and runs partly at α along the upper edge of the hole for the cava joined with the aponeuroſis w; and partly runs forward thro' the upper ſide of the tendon β.

γ γ The left ſecond fleſhy part in which the tendon o o o ends.

δ Its margin cut off, marked λ λ in Fig 6.

ε Its end which it inſerts into the twelfth rib: ι κ Fig. 6.

ζ The right part of the middle tendon, formed by the firſt fleſhy portion.

η η η θ, &c. The broad aponeuroſis which being gradually formed by the fleſh at the ſide of the broad tendon, by a thin aponeuroſis η η η, is thence continued along the lateral edge of the tendon, chiefly thro' the beginning of the ſecond fleſhy part betwixt η η η θ and ι ι ι; and thro' the tendon betwixt the lower ι ι and κ κ, it paſſes to the poſterior tip of the tendon, and paſſing round it goes along the poſterior lunated edge of the tendon λ: and in its courſe penetrates

to

to the lower part of the tendon and forms υ υ υ in Fig. 6. at laſt it ends in the lower part of the foramen for the cava at ν, and partly bends itſelf to the right of the hole for the cava at ξ. ο the place where the fibres croſs each other.

π ϱ ϱ σ σ τ τ υ υ υ υ Certain portions detached in a manner from the foreſaid aponeuroſis, running thro' the tendon and joining themſelves thereto at υ υ υ υ. Here at τ τ the faſciculi croſs each other.

φ φ φ Tendinous faſciculi, which coming out of the tendon, run forwards thro' it.

χ A tendinous bundle coming out of the tendon, and belonging to the ſecond fleſhy portion ψ.

ω Is the ſame with φ in Fig. 6.

A Part of the tendon here belonging to the edge of the hole, thro' which the cava paſſes. 'Tis marked χ Fig. 6.

B The tendinous edge belonging to the back part of the hole, thro' which the vena cava paſſes. It is formed chiefly by that principal tendinous part, that goes to the right from the firſt fleſhy portion to the ſecond. 'Tis marked A Fig. 6.

C The hole in the tendon, thro' which the vena cava paſſes.

D D The ſecond right fleſhy portion into which goes the tendon ζ.

E E Its margin cut off, marked C C in Fig. 6.

F The end of the portion marked D E F G H in Fig. 6.

Add here Fig. 6. 5. and 4.

The *ſyſtematic connexion* appears in Tab. VIII. μ in the loins; where part of it is covered by the quadratus lumborum λ.

But it ought to be obſerved here, once for all, that there being many and great varieties to be found in the ſtructure of the diaphragm, we were obliged to ſingle out this one.

THE

THE

Fifteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE SPINE.

FIGURE I.

The multifidus of the ſpine.

a The head which ariſes all the way from the third ſpinal proceſs of the os ſacrum, as far as the tubercle of the ſaid bone, that is formed by the concretion of the fourth oblique deſcending proceſs, with the oblique aſcending proceſs of the fifth vertebra, and from the ſaid tubercle itſelf of the os ſacrum.

The other three heads which ariſe from the tubercles, formed by the concretion of the oblique deſcending proceſs of the third vertebra of the os ſacrum, with the aſcending proceſs of the fourth vertebra, of the ſecond deſcending with the third aſcending, and of the firſt deſcending with the ſecond aſcending proceſſes; theſe heads I ſay cannot be ſeen in this figure, becauſe they lie under the muſcle.

b c The head which ariſes partly at b from the eminence which the os ſacrum has in its back, at the outer ſide of the ſecond and third of its holes; and partly at c, from the ligament that is extended from the foreſaid eminence to the lower part of the ſaid bone.

d The part that lies under the os ilium, from whence it ariſes in this place.

e The tendinous excurſion of the head, that ariſes from the oblique aſcending proceſs of the firſt vertebra of the os ſacrum. f a like excurſion from the aſcending proceſs of the firſt lumbal vertebra. g that from the proceſs of the ſecond. h that from the third. i from the fourth. k from the fifth. l that from the upper part of the end of the tranſverſe proceſs of the firſt vertebra of the back.

m The tendinous head ariſing from the tranſverſe proceſs of the ſecond vertebra of the back; and that from the upper and poſterior part of the end of the ſaid proceſs.

n The

n The like tendinous head, which ariſes from the upper and poſterior part of the tranſverſe proceſs of the third dorſal vertebra, betwixt its root and the root of the tubercle in which it ends. o a like head ariſing in like manner from the proceſs of the fourth dorſal vertebra. p the like from the fifth. q from the ſixth. r from the ſeventh. s from the eighth. t from the ninth. u from the tenth. v from the eleventh. w from the twelfth.

x The like head ariſing from the upper and poſterior part of the oblique deſcending proceſs of the ſecond vertebra of the neck. y the like from the third. z from the fourth.

α The tendinous end which inſerts itſelf into the lower edge of the ſpine (near its extremity) of the firſt or lowermoſt vertebra of the loins. β that to the ſecond. γ to the third. δ to the fourth. ε to the fifth. ζ to the firſt of the back. η to the ſecond. θ to the third. ι to the fourth. κ to the fifth. λ to the ſixth. μ to the ſeventh. ν to the eighth. ξ to the ninth. ο to the tenth. π to the eleventh. ρ to the twelfth. σ that to the firſt or loweſt vertebra of the neck. τ that to the ſecond. υ to the third. φ to the fourth. χ to the fifth. But from theſe terminations all the foreſaid portions continue to inſert themſelves beneath into the lower edge of each vertebra as far as their oblique deſcending proceſſes, as is repreſented in the uppermoſt extremity ψ ω.

ψ ω The uppermoſt tendinous end, inſerted into the ſixth vertebra of the neck: firſt into the lower edge of the ſpine near its extremity at ψ; and thence as far as the oblique deſcending proceſs ω, terminating outwardly tendinous.

The courſe of the heads and tails of theſe portions, and the conjunction of their fibres are externally, as they appear in the figure.

And in the end that belongs to the ſixth vertebra of the neck, appears the manner in which the portions from ſeveral heads, belonging to one and the ſame vertebra, meet together as it were in one tail, before they terminate or inſert themſelves. For the end ψ ω that be longsto the ſaid vertebra, is formed the three heads marked z. y. x; and that portion of it that comes from the of neareſt head z, is inſerted juſt by the oblique proceſs ω: next to this, the portion is inſerted from the next lower head y: and next to that again at ψ, is inſerted the portion from the next head x, each of them coming nearer the end of the ſpinal proceſs as they are removed lower from the head. The ſame is alſo to be underſtood of the reſt, of which only the long portions appear outwardly, as the ſhorter lie immediately under the longer portions.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. VIII. 14. 14. in the left ſide; where its uppermoſt end is covered by the lower obliquous capitis, k l in the head and neck. Then at 14. 14. in the right ſide, where it is alſo covered by the ſpinalis colli 2, and ſemiſpinalis dorſi, p in the back. Then in Tab. VII. x in the trunk; where except that part, it is covered all the way by the common head of the longiſſimus dorſi and ſacrolumbalis, δ ε in the trunk, and the longiſſimus dorſi itſelf, Σ in the trunk; and by the ſpinalis dorſi, i in the trunk; and the complexus, u in the neck. But that part which is there naked in Tab. V. lies under the gluteus magnus, γ in the buttock.

FIGURE

FIGURE II.

The multifidus of the ſpine, laterally.

We have here exhibited that portion of it which is in the loins and next adjacent part of the back; in order to ſhew what could not be ſeen in the firſt figure.

a The part which comes from the os ſacrum, from the ligament detached from that bone to the os ilium, and from the os ilium itſelf; a b c d Fig. 1.

b The tendinous head that comes from the oblique aſcending proceſs of the firſt vertebra of the os ſacrum. The beginning of which head lying behind the os ilium cannot be ſeen in this figure. But it ariſes from that proceſs in the ſame manner as the next head c does from the oblique aſcending proceſs of the firſt lumbal vertebra.

c d The tendinous head ariſing at d from the edge of the oblique aſcending proceſs of the firſt vertebra of the loins, near the outer ſide of the oblique deſcending proceſs of the ſecond vertebra, to which it is attached as it aſcends.

e f The like tendinous head from the oblique aſcending proceſs of the ſecond lumbal vertebra f.

g h The like from the oblique aſcending proceſs of the third lumbal vertebra.

i k The like from the oblique aſcending proceſs of the fourth lumbal ver-

l m The like from the oblique aſcending proceſs of the fifth or uppermoſt vertebra of the loins.

n The tendinous end that belongs to the ſpine of the ſecond lumbal vertebra. o that to the third. p to the fourth. q to the fifth. r that to the ſpine of the firſt or lowermoſt vertebra of the back. s that to the ſpine of the ſecond.

t The place where it is cut off.

u v. w x. y z. α β. γ Portions which may be either referred to the multifidus or reckoned diſtinct muſcles. Each of them is inſerted into two of the lumbal vertebræ that are next to each other: and the uppermoſt of them is inſerted into the lowermoſt vertebra of the back, and the fifth or uppermoſt of the loins.

u v The firſt that ariſes at u from the outer part of the root of the oblique aſcending proceſs. Inſerts itſelf at v into the lower part of the root of the tubercle, that projects betwixt the tranſverſe and the oblique aſcending proceſs; alſo into the lower part of the edge of that oblique proceſs itſelf. The reſt are diſpoſed in the ſame manner.

w x The ſecond. w its origination. x its inſertion.

y z The third. y the origin. z the inſertion of it.

α β The fourth. α its origination. β its inſertion.

γ The fifth. γ its origin.

But the ſecond of them w x only can be entirely ſeen; ſince the ends of the reſt are hid behind the tranſverſe proceſſes: the fifth has its whole upper end hid; and the firſt, at its origin, lies in part behind the os ilium.

Add here Fig. 1.

MUSCLES OF THE BACK AND LOINS.

FIGURE III.

The longiſſimus dorſi, ſacrolumbalis, and cervicalis deſcendens.

a b The *common head* by which the longiſſimus dorſi and ſacrolumbalis ariſe. a the tendinous part. b the fleſhy part.

c d e The origin of that head from the criſta or edge of the os ilium, fleſhy at c, tendinous at d e. e f the part that coheres with the gluteus magnus. g h the tendinous part which ariſes from the two upper protuberances, at the opening in the end of the channel of the os ſacrum. h i the tendinous part diſcontinued, formed by the tendons ariſing from the ſpines of the two lower lumbal vertebræ, and all the ſpines of the os ſacrum.

k l m Tendons which ariſe from the ſpines of the lumbal vertebræ, k of the third, l of the fourth, m of the fifth.

n The diviſion of the common head into the longiſſimus dorſi and ſacrolumbalis.

o The *longiſſimus dorſi.*

p The tendinous portion of the common head, joined with that which comes from the tendons i k l, and runs thro' the longiſſimus dorſi externally.

q The tail aſcending thro' the neck and forming the tendon r, which at laſt joins with the tendon of the cervicalis deſcendens E E. And at the ſame place it goes off in another tendon, belonging to the lower part of the end of the horn of the poſterior tranſverſe proceſs of the third vertebra of the neck.

The portion given by the tendon r to the trachelomaſtoideus, Tab. VII. Ω in the neck, is here cut off.

Add here Fig. 5. and 6.

Under this lies partly the ſacrolumbalis s. See Fig. 5.

s The *ſacrolumbalis.*

t u v &c. Its tails belonging to the ribs; of which t. w. z. γ. ζ. ι. μ. ο. ϖ denote the fleſhy parts; u. x. α. δ. η. κ. ν. π. τ. φ. ψ the tendons in which they end. Theſe tendons are inſerted into the ribs: v into the eleventh, y to the tenth, β to the ninth, ε to the eighth, θ to the ſeventh, λ to the ſixth, ξ to the fifth, ρ to the fourth, υ to the third, χ to the ſecond, ω to the firſt. The tail that belongs to the twelfth, ſee in Fig. 6. t.

They are inſerted into the bottom part of the rough ſurface, that is in the outer ſide of the rib not far from the ſpine, and into the bow itſelf of each rib: except the two uppermoſt belonging to the two upper ribs; which are inſerted near the tubercle χ. ω, to which is affixed the ligament tying the rib to the tranſverſe proceſs of the vertebra. And that belonging to the firſt rib is inſerted in the like part ω, and alſo into the tranſverſe proceſs of the uppermoſt vertebra of the back.

Add here Fig. 4.

A The *ſervicalis deſcendens.*

B The tendinous excurſion of that head of it, which ariſes from the ſixth rib. See Fig. 4.

C C C. D D. E E Its three tendinous tails, which bend themſelves round the ſubjacent muſcles, and end C C C in the ſecond vertebra of the neck, D D in the third, E E in the fourth; at the bottom of the end of the horn of each of their tranſverſe proceſſes. Thoſe to the fourth E E are conjoined with the tendon r of the longiſſimus dorſi.

Under the origin of this muſcle lies the ſacrolumbalis. See Fig. 4. z.

Add here Fig. 4.

The *ſyſtematic connexion* appears in Tab. VII. ♂—Ω in the trunk, and D in the neck, where the laſt tendon of the longiſſimus dorſi is conjoined with the tendon of the cervicalis deſcendens, and bends itſelf behind the tranſverſalis of the neck, C C in the neck. Then in Tab. VI. ϰ—υ in the trunk, and X in the neck; where the greater part is covered by the broad tendon, by which ariſe the ſerratus poſticus inferior and internal obliquus of the abdomen; over which is ſpread the broad tendon U by which the latiſſimus dorſi begins; covered alſo by the ſerratus poſticus inferior C D, the rhomboides major p p q, the ſerratus poſticus ſuperior æ b, and the levator ſcapulæ Z. And what appears naked in the right ſide of that table, the ſame is in Tab. V. covered by the latiſſimus dorſi P, and the cucullaris B, in the back; except a ſmall part there marked M.

FIGURE IV.

The ſacrolumbalis with the cervicalis deſcendens.

a b c d e f g h i k l The tendinous tails of the ſacrolumbalis cut off, which were ſeen entire in the third figure u. x. &c. where under them are concealed the portions coming from the ribs.

m The portion that joins the ſacrolumbalis from the twelfth rib. n that from the eleventh, o from the tenth, p from the ninth, q from the eighth, r from the ſeventh rib.

s. s. &c. The tendinous beginnings by which thoſe portions ariſe from the ribs, from their back part a little nearer the ſpine, than where the tails of the ſacrolumbalis are inſerted.

t. u. v. w. x The heads of the cervicalis deſcendens; of which t ariſes from the 6th rib, u from the 5th, v from the 4th, w from the 3d, x from the 2d.

y. y. &c. The tendons by which thoſe heads begin and ariſe from the back part of the ribs, a little nearer the ſpine, than where the tails of the ſacrolumbalis are inſerted. Theſe tendons ſoon produce fleſhy portions, which run to a greater length inwardly than what appears outwardly.

z The cervicalis deſcendens ſo conjoined with the ſacrolumbalis, that it appears a continuation of it, namely of thoſe portions which it receives from the ribs.

α The tendinous excurſion of the firſt head, namely of that which comes from the ſixth rib t. But in other bodies it does not run to ſo great a length.

β β γ. δ δ ε. ζ ζ η Three tendinous tails of the cervicalis deſcendens, which bend themſelves round the ſubjacent muſcles: and belong β β to the ſecond vertebra of the neck, δ δ to the third, ζ ζ to the fourth: and inſert themſelves into the poſterior and lower part of the horn of their tranſverſe proceſſes γ. ε. η.

θ The longiſſimus dorſi here cut off. See Fig. 3. n. o. From whence alſo the reſt of this figure may be known.

Add here Fig. 3.

FIGURE V.

The longiſſimus dorſi.

a The longiſſimus dorſi.

b. c. d. e. f. g. h. i The tails which are here moſtly tendinous, and inſerted into the outer ſide of the ribs, ſoon after their departure from the tranſverſe proceſſes. b that inſerted into the tenth. c to the ninth. d to the eighth. e to the ſeventh. f to the ſixth. g to the fifth. h to the fourth. i to the third. But they grow broader as they aſcend, and lie partly under each tail next following. Thoſe inſerted into the eleventh and twelfth ribs do not appear, becauſe they lie under the muſcle.

l The laſt of thoſe tails which it inſerts into the tranſverſe proceſſes of the vertebræ of the back, ending by a long tendon l, in the poſterior and lower part of the end of the tranſverſe proceſs m, and the next part of the adjacent firſt rib n.

o The tail aſcending thro' the neck, and here dividing itſelf into two tails, which form the tendons p p q. r s, which bend themſelves round the ſubjacent muſcles. The one of them p p inſerts itſelf at q into the poſterior and lower part of the end of the horn of the tranſverſe proceſs of the fourth vertebra of the neck: the other r s, into the ſame part of the third vertebra at s.

t The ſacrolumbalis cut off from hence.

Add here Fig. 3. and 6.

The remaining parts of this figure are the ſame as in Fig. 3.

FIGURE VI.

The longiſſimus dorſi and ſacrolumbalis.

The longiſſimus and ſacrolumbalis are here cut off with their common head, leaving behind thoſe portions which the common head inſerts into the vertebræ of the loins and into the laſt rib: alſo thoſe which the longiſſimus gives to the tranſverſe proceſſes of the vertebræ of the back, except that to the uppermoſt: thoſe portions are alſo left which go to the longiſſimus. All which either lie under the common head, or under the longiſſimus.

a b. c d. e f. g h. i k Five tails cut off from the common head; of which a b is inſerted into the lower protuberance, that is near the back part of the

root of the tranſverſe proceſs of the firſt vertebra of the loins; c d to the ſecond, e f to the third, g h to the fourth (which is inſerted into the lower edge of the back part of the oblique aſcending proceſs of the fourth vertebra at h), i k to the fifth. Of theſe b, d, f, h, k denote the tendinous parts by which they inſert themſelves.

l m. n o. p q. r. s The five tails cut off from the common head; of which l m are inſerted into the lower margin of the back part of the tranſverſe proceſs of the firſt vertebra of the loins, at the end of the ſaid proceſs: n o to that of the ſecond, p q to that of the third, r to the fourth, s to the fifth. The two lower of theſe end in tendons m, o: the middle one is in part tendinous at q: the two upper are wholly fleſhy.

t The broad portion which the common head of the ſacrolumbalis, (whence it is cut off) here, inſerts itſelf at u u into the lower edge of the outer part of the laſt rib. At its origin it is conjoined with the portion s, belonging to the end of the tranſverſe proceſs of the fifth vertebra of the loins.

v w. x y. &c. The tails of the longiſſimus, which it inſerts into the tranſverſe proceſſes of the vertebræ of the back, at the lower and back part of their extremity. v w that inſerted by the longiſſimus dorſi into the firſt vertebra in the back; where w denotes the tendinous end, by which it is inſerted. x y that to the ſecond; of which y denotes the tendinous end by which it is inſerted. z α that to the third, of which α denotes the tendinous end by which it is inſerted. β γ that to the fourth; which is firſt ſplit into two, and inſerted by the common tendinous end γ. δ ε that to the fifth, which is alſo firſt ſplit in two, before it is inſerted by the common tendinous end ε. ζ η that to the ſixth, in like manner ſplit into two, and then forming the common tendinous end η by which it is inſerted. θ ι that to the ſeventh, inſerted by the tendinous end ι. To the eighth belonged two tails with tendinous ends $\varkappa$ λ: and the like to the ninth μ ν. To the tenth belonged only one, inſerted into it by the tendinous end ξ. The like to the eleventh o. All which are cut off from the longiſſimus dorſi. That tail which belongs to the tranſverſe proceſs of the twelfth dorſal vertebra, and the firſt rib, ſee in Fig. 5. l m.

π. ϱ. σ. τ The tendinous beginnings of the heads which join to the inner part of the longiſſimus dorſi, ariſing at π. ϱ. σ. τ from the upper and back part of the tranſverſe proceſſes of the firſt, ſecond, third, and fourth dorſal vertebra, from near the edges of the ſaid proceſſes. υ υ υ υ the places where they are cut off.

Add here Fig. 3. and 5.

MUSCLES OF THE BACK.

Add here the interſpinales dorſi like thoſe of the loins in Fig. 11. which ſee.

FIGURE VII.

The ſpinalis of the back.

a. b. c. d. e Five tendons by which it ariſes from the ſpines of the two upper vertebræ of the loins, and three lower of the back. The lower of them a, which ariſes from the fourth vertebra of the loins, is the longeſt and thickeſt: the next b, from the uppermoſt vertebra of the loins, is ſhorter and more ſlender: the other c, is ſtill ſhorter and thinner than that, and comes from the firſt vertebra of the back: the fourth d, comes from the ſecond vertebra of the back: the uppermoſt e, from the third vertebra of the back is the ſhorteſt and ſlendereſt. They all at length end in

f The fleſhy body.

g. h. i. k. l. m. n The ſeven tails in which the fleſhy body ends: theſe tails are firſt fleſhy and afterwards tendinous at g. h. i. k. l. m. n where they go to the ſpines of the ſeven dorſal vertebræ which follow next after the uppermoſt, and are inſerted at the edges almoſt of their extreme ends or tips. The lower one is the ſhorteſt and ſlendereſt: thoſe next above are longer and larger as they are ſeated higher in order. The tendinous ends are alſo longer and more conſiderable, as the tails from whence they ariſe are higher in order. g that belonging to the ſpine of the fifth vertebra of the back, h to the ſixth, i to the ſeventh, k to the eighth, l to the 9th, m to the 10th, n to the 11th.

The *ſyſtematic connexion* appears in Tab. VII. i in the trunk. Then in Tab. VI. α in the back; where a great part is covered by the ſerratus poſticus inferior C, the rhomboides major p p q, and ſplenius colli, V in the left ſide. And what appears naked in that table, is in Tab. V. covered by the latiſſimus dorſi P, and the cucullaris B, in the back.

FIGURE VIII.

The ſemiſpinalis dorſi.

a b. c d. e f. g h Four heads which are for a long way tendinous at a c e g; and which ariſe from the poſterior and upper part near the ends of the tranſverſe proceſſes of the third b, fourth d, fifth f, and ſixth vertebra h of the back. The tendons are ſhorter as they are placed higher in order.

i The fleſhy body.

k. l. m. n. o. p. q The ſeven tendons of the tails in which it ends, belonging to the lower part of the ſides of the ſpines of the five upper vertebræ of the back, and two next of the neck, not far from the ends or tips of their ſpines: k that

to

to the ſpinal proceſs of the eighth dorſal vertebra, l to the ninth, m to the tenth, n to the eleventh, o to the twelfth; p to the firſt or lowermoſt of the neck, q to the ſecond. They are longer as they go higher. But the upper tails, contrary to what they are, appear narrower in the figure on account of the perſpective.

The *ſyſtematic connexion* appears in Tab. VIII. p in the back. Then in Tab. VII. a b c d e g h; where the reſt is covered by the ſpinalis dorſi i, by the longiſſimus dorſi Σ, and the biventer cervicis h, in the neck. Then in Tab. VI. z in the back; where it is alſo covered by the ſplenius colli U V, and the ſplenius capitis, P in the neck: and what there appears naked, in the right ſide lies behind the rhomboides major, p p q in the back.

FIGURE IX.

The intertranſverſarii of the back.

a b The firſt which ariſes at a from the fore part of the tranſverſe proceſs of the firſt dorſal vertebra, and inſerts itſelf into the lower and back part of the tranſverſe proceſs of the ſecond vertebra of the back.

c d The ſecond which ariſes at c from the upper and back part of the tranſverſe proceſs of the ſecond dorſal vertebra; and is inſerted into the lower and back part of the third tranſverſe proceſs.

e The third, f the fourth, g the fifth, h the ſixth, i the ſeventh, k the eighth, l the ninth. All which ariſe and are inſerted like the ſecond.

The lowermoſt of them are the largeſt: thoſe which follow are ſmaller, and ſlenderer, and leſs fleſhy, as they go higher: the uppermoſt of them being ſo ſlender and tendinous that they rather reſemble ligaments than muſcles.

The *ſyſtematic connexion* appears in Tab. VIII. f. g. h. i. k. l. m. n. o in the back, in the left ſide. In the right ſide h denotes the third, i the fourth, k the fifth, and l the ſixth, in part covered by the ſemiſpinalis dorſi q r s t: m the ſeventh, n the eighth, o the ninth; 3. 4. 5 the ſpinalis colli. And what there appears naked, in Tab. VII. lies under the longiſſimus dorſi, Σ in the trunk.

MUSCLES OF THE LOINS.

FIGURE X.

The intertranſverſarii of the loins.

a b The firſt, which ariſes from the upper part of the tranſverſe proceſs of the loweſt vertebra of the loins, not far from the end of its ſaid proceſs: and is inſerted at b into the lower part of the ſecond tranſverſe proceſs, near its end.

c d The

c d The ſecond, ariſing in like manner at c from the upper part of the tranſverſe proceſs of the ſecond vertebra, and inſerted at d into the lower part of the tranſverſe proceſs of the third vertebra.

e f The third, ariſing in like manner at e from the upper part of the tranſverſe proceſs of the third vertebra, and inſerted at f into the lower part of the tranſverſe proceſs of the fourth vertebra.

g h The fourth, ariſing in like manner at g from the upper part of the tranſverſe proceſs of the fourth vertebra, and inſerted at h into the lower part of the tranſverſe proceſs of the fifth vertebra.

i k The fifth, ariſing in like manner at i from the upper part of the tranſverſe proceſs of the fifth vertebra of the loins, and is inſerted at k into the protuberance that ſtands out from beneath the outer and back part of the tranſverſe proceſs of the loweſt vertebra of the back.

The *ſyſtematic connexion* appears in Tab. VIII. Ψ. Ω. α. β. γ in the loins: which in Tab. VII. lies behind the common origin of the ſacrolumbalis and longiſſimus dorſi, δ ε in the trunk.

FIGURE XI.

The interſpinalis of the loins, on one ſide.

We have here exhibited only one of them, which is that ariſing from the ſpinal proceſs of the ſecond lumbal vertebra, and inſerted into that of the third.

a a The tendinous beginning that ſprings from the eminence in the ſpine at the bottom of the lower oblique proceſs, and is continued from thence almoſt to the end of the ſpine.

b The tendinous end inſerted into the lower part of the ſide of the ſpine, below the eminence before mentioned.

The like muſcles are placed betwixt the reſt of the ſpines of the lumbal vertebræ: and alſo betwixt the ſpines of the uppermoſt lumbal vertebra, and the laſt of the back.

The *ſyſtematic connexion* appears poſteriorly in Tab. VIII. Θ. Λ. Ξ. Π. Σ. Φ along the ſpine; where laterally the multifidus lies near them on each ſide 14: and in Tab. VII. But their edges or back part lies behind the broad tendon, by which the ſerratus poſticus inferior, and internal obliquus of the abdomen ariſe, over which tendon again is ſpread, the broad tendon by which the latiſſimus dorſi begins, U Tab. VI. in the trunk.

The *interſpinales dorſi* are like thoſe of the loins, only leſs, and found betwixt the lower ſpines of the dorſal vertebræ.

The *ſyſtematic connexions* of the interſpinales of the back, are alſo exhibited in Tab. VIII. Γ Δ along the ſpine; where the multifidus 14. lies at the ſide of them. Theſe alſo have their back parts or edges placed behind the broad tendon, by which the ſerratus poſticus inferior, and internal obliquus of the abdomen ariſe; over which again is ſpread the broad tendon, whereby the latiſſimus dorſi begins, U Tab. VI. in the trunk.

FIGURE

FIGURE XII.

The quadratus lumborum, viewed in its fore part.

a a The tendinous beginning which ariſes at a a from the upper and inner part of the criſta or edge of the os ilium, almoſt from the poſterior half of its length, divided in the middle; and at b it ariſes from the ligament that goes a-croſs from the tranſverſe proceſs of the loweſt lumbal vertebra to the os ilium.

c c The broad tendinous end that is inſerted into the inner part of the lower edge of the twelfth rib, not far from its firſt head.

d e The ſmall tendinous end that is inſerted at e into the ſide of the body of the loweſt vertebra of the back, near the laſt rib.

Add here Fig. 13.

The *ſyſtematic connexion* appears in Tab. IV. p in the trunk; where the reſt of it is covered by the pſoas magnus t, lies hid behind the diaphragm T S R in the trunk, and ♆ R.

f The ligament that runs a-croſs from the tranſverſe proceſs of the loweſt lumbal vertebra to the os ilium.

FIGURE XIII.

The quadratus lumborum, viewed in its back part.

a Part of its origin from the ligament that goes a-croſs from the tranſverſe proceſs of the loweſt lumbal vertebra to the os ilium.

b c. d e. f g. h i Tendinous portions inſerted into the lower part of the ends of the tranſverſe proceſſes; c to the ſecond, e to the third, g to the fourth, i to the fifth of the lumbal vertebræ

k. l. m. n Heads which ariſe tendinous from the upper part of the ends of the tranſverſe proceſſes, k of the ſecond, l of the third, m of the fourth, n of the fifth of the vertebræ of the loins. The fleſh in which they end is then joined to the back part of the muſcle, as in the uppermoſt of them n, ſo in the reſt, before the tranſverſe proceſſes.

Add here Fig. 12.

The *ſyſtematic connexion* appears in Tab. VIII. ♂ in the loins; where in part it lies under the intertranſverſarii of the loins ♆. Ω. α. β. γ. And what there appears naked is covered by the tendinous beginning of the tranſverſalis of the abdomen, over which again is ſpread the common tendinous origin of the obliquus internus of the abdomen, and ſerratus poſticus inferior, alſo by the common head of the ſacrolumbalis and longiſſimus dorſi, ♂ ε in the trunk Tab. VII.

o The ligament that is extended a-croſs from the tranſverſe proceſs of the loweſt lumbal vertebra to the os ilium.

The *ſyſtematic connexion* appears in Tab. VIII. ζ in the loins.

FIGURE

FIGURE XIV.

The pſoas parvus.

a The tendinous beginning by which it adheres at b to the lower margin of the body of the loweſt vertebra of the back, on one ſide; and likewiſe to the ligament c, interpoſed betwixt the body of that dorſal and the uppermoſt lumbal vertebra; and alſo at d from the ſuperior margin of the uppermoſt vertebra of the loins.

f The other tendinous beginning, adhering at e to the lower margin of the uppermoſt lumbal vertebra, and at f to the intervening ligament next following below.

g The tendon which it forms, and which begins about the middle part of the length of the loins. From thence the tendon bends itſelf to the pſoas magnus. i the broad end by which it inſerts itſelf into the margin of the os iſchium, where it forms part of the upper rim of the pelvis before the os ilium, near the ſpine k, that is in the ſaid rim above the great foramen.

l l Along this part the aponeuroſis is cut off, that goes from this tendon and inveſts the pſoas magnus, with the iliacus internus in their fore part, as they paſs before the iſchium.

The *ſyſtematic connexion* appears in Tab. IV. r s in the trunk; where at its origin it lies hid behind the diaphragm R: and in its end behind the pſoas magnus t.

THE

Sixteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE NECK.

Add here the *cervicalis deſcendens*, Tab. XV. Fig. 3. A. and Fig. 4. z.

FIGURE I.

The ſplenius colli.

a b The tendinous head that ariſes at b from the ſide of the end of the ſpinal proceſs of the ninth vertebra of the back.

c d The tendinous head that ariſes from the ſide of the end of the ſpinal proceſs of the tenth dorſal vertebra: and which is ſhorter than the preceding.

e The fleſhy belly.

f g h The end that is firſt fleſhy at f, then tendinous at g, and belongs at h to the back part of the end of the poſterior tubercle of the tranſverſe proceſs of the fifth vertebra of the neck.

i k l The end that is firſt fleſhy at i, then tendinous at k, and is inſerted at l into the lower part of the end of the tranſverſe proceſs of the ſixth vertebra of the neck.

m n o The end which is firſt fleſhy at m, then tendinous at n, and is inſerted at o into the fore part of the tip that is moſt prominent at the tranſverſe proceſs of the ſeventh vertebra of the neck.

The *ſyſtematic connexion* appears in Tab. VI. T U V in the left ſide of the neck and back: where, for the moſt part it is covered by the upper ſerratus poſticus æ b, and the elevator of the ſcapula Z. Then in the right ſide of the neck and back in the ſame table; where it is alſo covered by the elevator of the ſcapula Z, and by the ſerratus poſticus ſuperior æ b, and in its lower part by the rhomboides major p p q; and that part of it which there appears naked, is in Tab. V. placed under the cucullaris B in the neck and back. But laterally part of it appears naked in Tab. IX. φ in the neck, where the reſt of it is

is covered by the cucullaris ω, and its upper end lies under the ſternocleido-maſtoideus ϱ.

FIGURE II.

The interſpinales of the neck, a poſterior view.

a b The firſt, which ſpringing from the ſide of the upper part of the ſpine of the loweſt cervical vertebra at a, near the end of its tubercle, goes to the lower and inner part b, of the horn of the ſecond vertebra.

c d The ſecond, which ariſing from the upper part of the horn of the ſecond cervical vertebra, goes to the lower and ſame inner part of the third vertebra.

e f The third, which ſpringing from the upper part of the horn of the third cervical vertebra at e, goes to the lower and ſame inner part of the fourth.

g h The fourth, which ſpringing from the upper part of the horn of the 4th cervical vertebra at g, goes to the lower and ſame inner part of the 5th h.

i k The fifth, which ariſing from the upper part of the horn of the fifth cervical vertebra at i, goes to the lower and ſame inner part of the 6th vertebra k.

Add here Fig. 3.

The *ſyſtematic connexion* appears in Tab. VIII. n. o. p. q. r in the left ſide of the neck. Then in the right ſide; where the three upper n o p, in part lie under the ſpinalis colli 2. Then in Tab. VII. p. q. r. s. t in the neck; where alſo the three uppermoſt r s t, lie partly under the ſpinalis colli o; and the uppermoſt t, under the biventer cervicalis l. And what there appears naked in Tab. VI. lies under the ſplenius capitis P, in the neck: the uppermoſt is alſo in part uncovered by that muſcle juſt below O; and in Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE III.

The interſpinales of the neck, laterally.

a b The firſt. b its origin from the ſide of the upper part of the ſpine of the loweſt vertebra of the neck, near the end of its tubercle.

c The ſecond. d the third. e the fourth. f the fifth. g, &c. The origin of each from the upper part of the horn of the ſpine.

The inſertion cannot be ſeen, as lying behind the horn of the ſpine.

Add here Fig. 2.

FIGURE IV.

The middle ſcalenus, in its back part.

a a The origin from the firſt rib.

b The head joining it from the upper part of the end of the tranſverſe proceſs of the firſt or loweſt vertebra of the neck. c the other head from the upper part of the end of the poſterior tubercle of the tranſverſe proceſs of the 2d vertebra.

d. e. f. g. h. i. k. l The extremities inſerted into the tranſverſe proceſſes of the vertebræ of the neck, d of the firſt, e of the ſecond, f of the third, g of the fourth, h of the fifth, i of the ſixth, by a tendinous end; k l of the ſeventh, chiefly tendinous at k, but partly fleſhy at l.

Add here Fig. 5.

The *ſyſtematic connexion* appears in Tab. VIII. s, &c. in the neck; where below it is covered by the elevator of the firſt rib x: above by the ſixth intertranſverſarius in the back part of the neck ∂. Then in Tab. VII. E in the neck; where it is alſo covered by the ſcalenus poſticus F G H, the cervicalis deſcendens D, and by the ſupreme tendon of the longiſſimus dorſi, the tranſverſus cervicalis C, and the trachelomaſtoideus z: and what is there uncover'd, in Tab. VI. lies under the elevator of the ſcapula, Z in the neck. But laterally it appears in Tab. IX. χ in the neck.

FIGURE V.

The middle ſcalenus, in its fore part.

a The tendinous part of its beginning, by which it ariſes from the firſt rib at b b, occupying the whole height of the ſaid rib.

c d The firſt tail, inſerted by a tendinous end into the anterior and lower part of the tranſverſe proceſs of the lower vertebra of the neck.

e f The ſecond tail, inſerted by a tendinous extremity into the lower part of the end of the poſterior tubercle, and at the end of the lunar edge of the tranſverſe proceſs of the ſecond cervical vertebra.

g h The third tail, h the tendinous end belonging to the end of the lunar edge of the third cervical vertebra.

i k The fourth tail, inſerted by the tendinous end k into the extreme lunar edge of the fourth cervical vertebra.

l m The 5th tail, inſerted by the tendinous end m into the extreme lunar edge, and into the botton of the anterior tubercle of the fifth vertebra of the neck.

n o The ſixth tail, belonging by the tendinous end o, to near the extremity of the proceſs of the ſixth vertebra.

p q r The ſeventh tail, with an extremity inſerted partly fleſhy p, and partly tendinous q, at the fore part the lower edge of the tranſverſe proceſs r, of the atlas, about the middle of its length.

Add

Add here Fig. 4.

The *ſyſtematic connexion* appears in Tab. IV. $\beta\ \gamma$, &c. in the neck; where at its origin it lies behind the clavicle, and has alſo a large part covered by the anterior ſcalenus Π, &c. And then at its inſertion behind the larger rectus capitis internus Γ. Then in Tab. II. $o\ o$ in the neck; covered by the coracohyoideus α near the clavicle, and the ſternomaſtoideus $\iota\ \lambda$. And what appears naked in that table, in Tab. I. lies behind the latiſſimus colli Ω, &c. in the neck.

FIGURE VI.

The longus colli.

a The tendinous head by which it ariſes at b from the middle of the lateral part of the body of the tenth dorſal vertebra.

c The tendinous part of the head, by which it ariſes from the body of the twelfth dorſal vertebra. See Fig. 7. c.

d The part from which the lower portion of the muſcle on the outer ſide is formed, going a little obliquely to one ſide, and forming one tail e f, partly fleſhy e, and partly tendinous f, and ending at g in the lower part of the anterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck.

h The other principal part of the muſcle, belonging to the bodies of the vertebræ.

i k The firſt of thoſe heads, which join the principal portion of the muſcle from the tranſverſe proceſſes: ſpringing by a tendinous origin i, from the upper and inner part of the anterior tubercle of the tranſverſe proceſs of the 2d cervical vertebra, that is towards the body of the vertebra. k the fleſhy part.

l m The ſecond head, ſpringing by a tendinous origin from the upper and inner part of the anterior tubercle of the 3d cervical vertebra. m the fleſhy part.

n o The third head, ſpringing by a tendinous origin n, from the ſame part of the tubercle of the fourth vertebra. o the fleſhy part.

p q The fourth head, ſpringing by a tendinous origin from the ſame part of the tubercle of the fifth vertebra. q the fleſhy part.

r The tendinous part, inſerted by the extremities into the body of the ſixth vertebra of the neck.

t The tendinous tail, inſerted at u into the lower part of the tubercle of the atlas, which is fixed in the middle of its fore part.

Add here Fig. 7.

The *ſyſtematic connexion* appears in Tab. IV. t, &c. in the neck. Then in Tab. III. $\Delta\ \Theta$ in the neck; where it is in part covered by the larger rectus internus capitis Γ; lies partly behind the lower conſtrictor of the pharynx ω; and is in part hid behind the ſternothyreoideus π, &c. But what appears naked in that table, in Tab. II. lies hid behind the ſternomaſtoideus $\eta\ \lambda$ in the neck.

FIGURE

FIGURE VII.

The heads and tails of the longus colli.

a b The tendinous head, by which it ariſes from the middle of the lateral part of the body of the tenth dorſal vertebra. b the place where it is cut off. It is marked a b in Fig. 6.

c d The head, which ſprings by a tendinous origin from the middle of the lateral part of the body of the 11th dorſal vertebra. d the fleſhy part cut off.

e f The head, which ariſes by a tendinous beginning at e from the middle of the lateral part of the body of the 12th dorſal vertebra. f the fleſhy part cut off.

g h The tendinous head, which ariſes at g from about the middle of the lateral part of the body of the 1ſt vertebra of the neck. h the place where 'tis cut off.

i k The tendinous head, which ariſes at i from about the middle of the lateral part of the body of the 2d cervical vertebra. k the place where 'tis cut off.

l m The head, which ariſes tendinous at l from the beginning of the firſt rib. m the fleſhy part cut off.

n o The head, which ariſes tendinous at n from the upper and inner part of the anterior tubercle (next the body of the vertebra) belonging to the tranſverſe proceſs of the ſecond cervical vertebra. o the fleſhy part cut off. It is marked i k in Fig. 6.

p q The head, which ariſes tendinous at p from the upper and inner part of the anterior tubercle (that is next the body of the vertebra) belonging to the tranſverſe proceſs of the third vertebra of the neck. q the fleſhy part cut off. It is marked l m in Fig. 6.

r s The head, which ariſes in like manner tendinous at r from the anterior tubercle of the tranſverſe proceſs of the fourth cervical vertebra. s the fleſhy part cut off. It is marked n o in Fig. 6.

t u The head, which ariſes in like manner tendinous at t from the anterior tubercle of the tranſverſe proceſs of the fifth cervical vertebra. u the fleſhy part cut off. It is that marked p q in Fig. 6.

v w The tendinous tail, which is inſerted at v into the body of the third cervical vertebra, in the anterior and lateral part of it not far from its lower margin. w the place where it is cut off.

x y The like tendinous tail, inſerted in like manner at x into the body of the fourth vertebra. y the place where it is cut off.

z α The tail, inſerted by a tendinous end z into the body of the fifth vertebra, like the preceding. α the fleſhy part that is cut off.

β γ The like tail, but much more conſiderable, inſerted by a broader tendinous end about the middle of the height of the fore part of the body of the ſixth vertebra, laterally. γ the fleſhy part that is cut off.

δ ε The

δ ε The tail, which is inſerted by the tendinous end δ into the lower part of the tubercle of the atlas, which is fixed in the middle of the fore part of it. ε the fleſhy part cut off together with its tendinous part. It is marked t u in Fig. 6.

ζ η θ The tail, which is inſerted at ζ into the lower part of the anterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck. It conſiſts of the fleſhy part η, and the tendinous part θ, both of them cut off. It is that marked e f g Fig. 6.

ι κ The tendinous tail, belonging at ι to the fore part of the root of the ſpine, that is near the fore part of the tranſverſe proceſs of the firſt cervical vertebra. κ the place where it is cut off.

Add here Fig. 6.

FIGURE VIII.

The anterior intertranſverſarii of the neck.

a b The firſt, which ariſes at a from the eminence that is in the firſt cervical vertebra, at the anterior root of its tranſverſe proceſs: and is inſerted at b into the lower and fore part of the root of the tubercle, and alſo into the anterior tubercle itſelf of the ſecond tranſverſe proceſs.

c d The ſecond, whoſe origin is from the upper and back part of the anterior tubercle and root of the tranſverſe proceſs of the ſecond vertebra, which here lies behind the ſaid tubercle ſo as to be hid from the view: but ſee a in Fig. X. It is inſerted into the lower and fore part of the root and anterior tubercle itſelf of the third vertebra.

e f The third, whoſe origin, like that of the ſecond, is not to be ſeen. f its inſertion into the fourth vertebra, like that of the ſecond into the 3d vertebra.

g h The fourth. Its origin is alſo concealed. f its inſertion into the fourth vertebra, like that of the ſecond into the third vertebra.

i k k The fifth. Its origin is likewiſe concealed. i the tendinous part. k k its inſertion into the lower part of the root of the tranſverſe proceſs of the ſixth vertebra, (and into the edge of its fore part) that ſuſtains the atlas; alſo into the next adjacent part of its body, immediately below the foreſaid edge.

l m n The ſixth, which ariſes at l from the fore part of the anterior root of the tranſverſe proceſs of the ſixth vertebra; and is inſerted at m into the bottom of the anterior margin of the root of the tranſverſe proceſs of the ſeventh vertebra. n the tendinous part of its origin.

Add here Fig. 10.

The *ſyſtematic connexion* appears in Tab. IV. ξ the fourth, ο the third, π the ſecond, ρ the firſt in the neck; where in part they lie under the tails of the middle ſcalenus μ. λ. ι. η: and firſt under the tails of the longus colli z α, belonging to the tranſverſe proceſs of the ſecond cervical vertebra; alſo the ſecond, third, and fourth of the heads of the ſaid longus, which ariſe at x. w. v from the tranſverſe proceſſes of the vertebræ of the neck. Then in Tab. III.

firſt

firſt A in the neck, where it alſo in part lies under the tail Θ of the longus colli, belonging to the tranſverſe proceſs of the ſecond vertebra of the neck; and alſo under the tail Φ of the anterior ſcalenus: but the other three are hid behind the larger rectus internus capitis Γ.

FIGURE IX.

The poſterior intertranſverſarii of the neck.

a b The firſt, which ariſes tendinous at a from the ſame upper and anterior part of the tranſverſe proceſs of the firſt cervical vertebra. It is inſerted at b into the lower and back part of the poſterior tubercle and adjacent extremity of the lunar margin of the ſecond vertebra.

c d The ſecond, which ariſes tendinous at c from the upper part of the poſterior tubercle of the tranſverſe proceſs of the ſecond cervical vertebra. It is inſerted at d into the lower and back part of the poſterior tubercle and lunar margin of the third vertebra.

e f The third, which ariſes tendinous at e from the third cervical vertebra, like the ſecond from the ſecond vertebra: and is inſerted at f into the fourth, as the ſecond into the third vertebra.

g h The fourth, which ariſes alſo by a tendinous beginning at g from the fourth vertebra, as the ſecond from the ſecond: and is inſerted at h into the fifth vertebra, as the ſecond is into the third vertebra.

i k The fifth, which alſo ariſes tendinous at i from the fifth vertebra, as the ſecond does from the ſecond vertebra: and is inſerted at k into the lower and poſterior part of the tranſverſe proceſs of the ſixth vertebra.

l m The ſixth, which ariſes tendinous at l from the upper part of the end of the tranſverſe proceſs of the ſixth vertebra. It is inſerted at m into the lower part of the extremity of the ſeventh tranſverſe proceſs, near its fore part.

Add here Fig. 16. r. and Fig. 18. q r.

The *ſyſtematic connexion* appears in Tab. IX. where they lie behind the anterior intertranſverſarii ξ. ο. π. ϱ in the neck, and the tails of the middle ſcaleni μ. λ. ι. η. In their back part they appear in Tab. VIII. δ. ε. ζ. η. θ. ι in the neck; where the ſixth δ lies in part behind the lower obliquus capitis k.

n n The anterior tubercles of theſe vertebræ here cut off, that the intertranſverſarii may appear entire.

FIGURE X.

The fourth anterior intertranſverſarius colli

It is here repreſented laterally and apart, that its origin might be ſeen. After the ſame manner with this ariſe the ſecond, third, and fifth.

a The origin from the upper and back part of the anterior tubercle, and root of the tranſverſe proceſs of the fourth vertebra of the neck.

Add here Fig. 8.

FIGURE

FIGURE XI.

The anterior ſcalenus.

a The tendinous beginning, by which it ariſes from the upper edge of the firſt rib, not far from its cartilage.

b c The firſt tale, which is the broadeſt, inſerted by the tendinous end c into the lower part of the anterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck: and is alſo continued to the lunar edge of the loweſt or firſt cervical vertebra.

d e The ſecond tail, which is narrower than the firſt; and inſerted by the tendinous end e into the tranſverſe proceſs of the third cervical vertebra, as the firſt was into the ſecond.

f g The third tail, which is ſtill narrower than the ſecond, inſerted by the tendinous end g into the lower lunar edge, and next adjacent part of the anterior tubercle of the tranſverſe proceſs of the fourth cervical vertebra.

The *ſyſtematic connexion* appears in Tab. III. Π Σ &c. in the neck; where below it is ſeated behind the clavicle: the inſertion of its end is behind the larger rectus internus capitis Γ, and extremity of the longus colli Θ, belonging to the tranſverſe proceſs of the ſecond vertebra of the neck. Then in Tab. II. ϱ in the breaſt; where the reſt of it lies behind the clavicle, the coracohyoideus ϰ in the neck, and the ſternocleidomaſtoideus η ι λ. And what appears naked of it in that table, is in Tab. I. ſeated behind the pectoralis ξ in the trunk.

FIGURE XII.

The poſterior ſcalenus.

a b The tendinous beginning, by which it ſprings from the outer part of the upper edge of the ſecond rib, betwixt that part of it that is fixed to the tranſverſe proceſs, and that which forms the curvature forwards.

b c The firſt tail, inſerted by the tendinous end c into the end of the poſterior tubercle of the tranſverſe proceſs of the ſecond vertebra of the neck.

d e The ſecond tail, inſerted by the tendinous end e into the extremity of the poſterior tubercle of the tranſverſe proceſs of the 3d vertebra of the neck.

The *ſyſtematic connexion* appears in Tab. VIII. F G H in the neck and trunk; where at its inſertion it lies behind the cervicalis deſcendens D, and the tranſverſus cervicalis C C. But the reſt in Tab. VI. is covered by the elevator ſcapulæ Z in the neck.

FIGURE XIII.

The elevator ſcapulæ, in its fore part.

a a The tendinous beginning, by which it ſprings from the margin of the ſcapula, juſt above the beginning of its ſpine.

b The inner part of it, c the outer part.

d e The firſt tail, inſerted by the tendinous end e into the extremity of the poſterior horn of the tranſverſe proceſs of the fourth vertebra of the neck.

f g The ſecond tail, inſerted by the tendinous end g into the extremity of the poſterior horn of the tranſverſe proceſs of the fifth vertebra.

h i The third tail, inſerted by the tendinous end i into the lower and fore part of the end of the tranſverſe proceſs of the ſixth vertebra.

k l The fourth tail, which is thicker than the reſt, and inſerted by the tendinous end l into the anterior and lower part of the tranſverſe proceſs of the ſeventh vertebra, betwixt the root and extremity of the ſaid proceſs.

The tails are each longer as they are higher.

Add here Fig. 14.

The *ſyſtematic conexion* appears in Tab. II. π in the neck; where the reſt lies behind the clavicle, and the coracohyoideus α above the clavicle, and the ſternocleidomaſtoideus λ. In Tab. I. it lies behind the cucullaris Ψ in the neck and trunk.

FIGURE XIV.

The elevator of the ſcapula, in its back part.

a The tendinous beginning, by which it ſprings from the edge of the ſcapula, and which it forms juſt above the firſt beginning of its ſpine.

b The inner part of the fourth tail, at laſt tendinous.

Add here Fig. 13.

The *ſyſtematic connexion* appears in Tab. VI. Z in the neck; where its inſertion lies hid behind the ſplenius capitis P. Then in Tab. V. A in the neck; where the reſt is covered by the cucullaris B, and ſternocleidomaſtoideus u: and there concealed alſo behind the ſplenius capitis z. Then laterally in Tab. IX. ψ in the neck; where likewiſe the reſt lies under the cucullaris ω, and ſternocleidomaſtoideus ϱ.

FIGURE XV.

The ſpinalis colli.

a b The firſt tendinous head, ariſing at b from the poſterior and upper part of the tranſverſe proceſs of the ſeventh vertebra of the back, at the tubercle in which its root ends.

c d The ſecond head, e f the third, g h the fourth, i k the fifth, l m the ſixth: which ariſe in the ſame manner from the eighth vertebra d, from the ninth f, from the tenth h, from the eleventh k, and the twelfth m.

They are each of them ſhorter as they are higher.

n. o. p. q. r The ends, which inſert themſelves into ſide of the lower edge of the end of the ſpine of the ſecond vertebra of the neck n, of the third o, of the fourth p, of the fifth q, and the ſixth r. The portion or end inſerted into the

ſixth

ſixth is thicker. They lie one upon the other, whence it is that only the uppermoſt can be entirely ſeen in the figure.

The *ſyſtematic connexion* appears in Tab. VIII. 2 &c. in the back and neck. Then in Tab. VII. o o in the neck and trunk; where it is alſo covered by the biventer cervicalis l i &c. and by the complexus u, with the longiſſimus dorſi Ψ Σ. Then in Tab. VI. where it is not diſtinct from the ſemiſpinalis dorſi z in the back: the reſt lies under the ſplenius colli T in the neck, and ſplenius capitis P in the neck; alſo behind the ſerratus poſticus ſuperior æ b in the back; and where it appears not covered by the ſemiſpinalis dorſi, z in the left ſide: in the right ſide it lies under the rhomboides major p p q in the back.

FIGURE XVI.

The tranſverſalis of the neck, in its back part.

a b The firſt tendon, by which it ariſes at b from the upper and back part of the tranſverſe proceſs of the ſeventh vertebra of the back near its extremity.

c d e f The outer part of the muſcle. d the tendon which is marked d Fig. 18. e the tendon that is marked f Fig. 18. f the tendon that is marked k Fig. 18.

g h i k l m n o p The inner part of the muſcle.

g h i The head, ſpringing by a tendinous origin at h from the poſterior part of the oblique aſcending proceſs of the firſt or loweſt vertebra of the neck, at the outer ſide of the oblique deſcending proceſs of the ſecond vertebra. i the fleſh in which it ends.

k l m The head, which ſprings by a tendinous origin k from the back part of the oblique aſcending proceſs of the ſecond cervical vertebra, at the outer ſide of the oblique deſcending proceſs of the third vertebra. m the fleſh in which it ends.

n o p The head, that ſprings by a tendinous origin n from the back part of the oblique aſcending proceſs of the third cervical vertebra o, at the outer ſide of the oblique aſcending proceſs of the fourth vertebra. p the fleſh in which it ends.

q The tendinous end, which being conjoined with the ſixth poſterior intertranſverſarius colli r, is inſerted into the anterior and lower part of the tranſverſe proceſs of the atlas.

Add here Fig. 17. and 18.

The *ſyſtematic connexion* appears in Tab. VII. C C in the neck; where it alſo lies under the longiſſimus dorſi Ψ, the cervicalis deſcendens D, and the trachelomaſtoideus z. Then in Tab. VI. Y in the neck; where it alſo lies under the ſerratus poſticus ſuperior æ b, and the elevator of the ſcapula Z, with the longiſſimus dorſi X: above it alſo lies hid behind the ſplenius colli T, and ſplenius capitis P. And what appears naked in that table (*i. e.* VI.) in Tab. V. lies under the cucullaris B in the neck and back.

r The ſixth poſterior intertranſverſarius of the neck.

Add here Fig. 18. p q r. and Fig. 9. l m.

FIGURE XVII.

The firſt five heads of the tranſverſalis colli.

a b The firſt tendinous head, ariſing from the upper and back part of the tranſverſe proceſs of the eighth vertebra of the back, near its end. b the place where it is cut off. It is marked a b in Fig. 16.

c The ſecond tendinous head, ariſing in the ſame manner from the ninth vertebra.

d e The third, ariſing from the tenth vertebra, d the tendinous beginning, afterwards forming the fleſh e.

f g The fourth head, ariſing from the eleventh vertebra by the tendinous beginning f, ending in the fleſh g.

h i The fifth head, ariſing from the twelfth vertebra in like manner by the tendinous beginning h, and then forming the fleſh i.

They are all cut off, like the firſt; and lie under the muſcle in Fig. 16.

Add here Fig. 16. and 18.

FIGURE XVIII.

The tranſverſalis colli, laterally.

a The lower part to be obſerved in Fig. 16.

b c The firſt tendon, inſerted at c into the lower and back part of the poſterior horn of the end of the tranſverſe proceſs of the ſecond cervical vertebra.

d e The ſecond tendon, inſerted at e into the third cervical vertebra, as the firſt is into the ſecond.

f g The third tendon, inſerted at g into the fourth vertebra, like the firſt into the ſecond.

h i The fourth tendon, inſerted at i into the fifth vertebra, like the firſt into the ſecond.

k l The fifth tendon, inſerted at l into the lower and back part of the end of the ſixth tranſverſe proceſs.

Theſe tendons run from the external part thro' the belly of the muſcle, and are lodged therein almoſt to the extremity of the fleſh.

m The end, which conjoins itſelf with the ſixth poſterior intertranſverſarius colli at n, and is therewith inſerted by the tendinous end o, into the lower and fore part of the tranſverſe proceſs of the atlas.

Add here Fig. 16. and 17.

p The beginning of the ſixth poſterior intertranſverſarius colli, from the upper part of the end of the tranſverſe proceſs of the ſixth cervical vertebra.

q r The back part of the ſixth poſterior intertranſverſarius colli, with which is conjoined the end of the tranſverſalis. r the tendinous end.

Add here Fig. 16. r. and Fig. 9. l m.

MUSCLES

MUSCLES OF THE HEAD AND NECK.

FIGURE XIX.

The rectus major internus capitis.

a The firſt head, ariſing from the upper and fore part of the anterior tubercle of the tranſverſe proceſs of the ſecond cervical vertebra.

b The tendinous part by which the fleſh is covered.

c c The end, inſerted into the lower edge of the occipital bone that is towards the os petroſum, almoſt at the opening by which the eighth nerve of the head paſſes out, almoſt as far as the multiform bone.

d Part of the occipital bone that is before the great foramen.

e the lunar edge of the occipital bone, that belongs to the opening thro' which paſs out the internal jugular vein, with the eighth nerve of the head.

Add here Fig. 20.

The *ſyſtematic connexion* appears in Tab. III. Γ in the neck. Then in Tab. II. ξ in the neck; where in part it lies behind the ſternomaſtoideus η λ. In Tab. I. the part does not appear that is ſeen in Tab. II. as being covered by the latiſſimus colli Ω.

FIGURE XX.

The heads of the rectus internus capitis major.

a b The firſt head, wholly fleſhy, ariſing from the upper and fore part of the anterior tubercle of the tranſverſe proceſs of the ſecond cervical vertebra: b the place from whence it is cut off. It is marked a Fig. 19.

c d The ſecond head, ariſing by a tendinous beginning c from the third vertebra, as the firſt does from the ſecond. d the fleſhy part cut off, together with its tendinous part.

e f The third head, ariſing by a tendinous beginning from the fourth vertebra, as the firſt does from the ſecond. f the fleſhy part cut off, together with the tendinous part.

g h The fourth head, ariſing by a tendinous beginning g from the fifth vertebra, like as the firſt does from the ſecond. h the fleſhy part cut off.

The ſecond, third, and fourth heads lie under the belly of the muſcle in its poſterior aſcending parts.

Add here Fig. 19.

FIGURE XXI.

The trachelomaſtoideus, laterally.

a b The tendinous beginning of the firſt head, ariſing at b from the tranſverſe proceſs of the tenth dorſal vertebra.

c d The

c d The tendinous beginning of the ſecond head, ariſing at d from the tranſverſe proceſs of the eleventh dorſal vertebra.

e f The tendinous beginning of the third head, ariſing at f from the tranſverſe proceſs of the twelfth dorſal vertebra.

g h The tendinous beginning of the fourth head, ariſing at h from the upper and back part of the tranſverſe proceſs of the firſt or loweſt cervical vertebra, near the oblique aſcending proceſs.

i k The tendinous beginning of the fifth head, ariſing at k from the oblique aſcending proceſs of the ſecond vertebra of the neck; from the outer and back part of the root of the ſaid proceſs, whence it is continued almoſt as far as the beginning of the tranſverſe proceſs.

l m The tendinous beginning of the 6th head, ariſing at m from the oblique aſcending proceſs of the third cervical vertebra, as the fifth head does from the ſecond vertebra.

n o The tendinous beginning of the 7th head, ariſing at o from the oblique aſcending proceſs of the fourth cervical vertebra, as the fifth head does from the ſecond vertebra.

The origin of the fifth, ſixth, and ſeventh heads, from the oblique deſcending proceſſes cannot here be ſeen, but may be obſerved in Fig. 22.

p The tendinous part. See Fig. 22. n.

q The tendinous end, inſerted at r into the poſterior edge of the maſtoide proceſs.

Add here Fig. 22.

FIGURE XXII.

The trachelomaſtoideus, in its back part.

a b The tendinous beginning of the firſt head, ariſing at b from the upper and back part, almoſt of the extremity of the tranſverſe proceſs of the tenth dorſal vertebra.

c d The tendinous beginning of the ſecond head, ariſing at d from the eleventh dorſal vertebra, as the firſt head does from the tenth vertebra.

f The tendinous beginning of the third head, ariſing in like manner at f from the twelfth vertebra of the back.

Near g is the tendinous origin of the fifth head, ariſing from the back part of the outer lateral edge of the oblique deſcending proceſs of the 3d vertebra of the neck: and below that from the oblique aſcending proceſs of the 2d vertebra.

Near h i is the tendinous beginning of the ſixth head, ariſing at h from the back part of the external lateral edge of the oblique deſcending proceſs of the fifth cervical vertebra: and below that from the oblique aſcending proceſs i of the third vertebra.

k l m The tendinous beginning of the ſeventh head, ariſing at l from the back part of the outer lateral edge of the oblique deſcending proceſs of the fifth cervical vertebra: and below that from the oblique aſcending proceſs of the fourth vertebra m.

n The tendinous portion.

o The

o The tendinous end, inſerted at p into the poſterior edge of the maſtoide proceſs.

Add here Fig. 21.

The *ſyſtematic connexion* appears in Tab. VII. z, &c. in the neck; where it is covered by a portion of the longiſſimus dorſi Ψ, and tranſverſalis colli C. Then in Tab. VI. W in the neck; where it alſo lies under the ſerratus poſticus ſuperior æ b, the elevator ſcapulæ Z, and part of the longiſſimus dorſi X, ſplenius colli T, and ſplenius capitis P: and what there appears naked, in Tab. V. lies under the cucullaris B in the neck and back. Anteriorly it appears in Tab. III. Ê in the left ſide of the neck; where it lies behind the middle ſcalenus E, and complexus E′. And what there appears naked is in Tab. II. ſeated behind the ſternomaſtoideus λ in the neck, and biventer of the lower jaw y.

FIGURE XXIII.

The biventer cervicalis and complexus, poſteriorly.

a b c d e f g h i k l m n o p p The *biventer cervicalis.*

a b The tendinous beginning of the firſt head, ariſing at b from the poſterior and upper part of the tubercle, in which the tranſverſe proceſs of the ſixth dorſal vertebra terminates.

c d The tendinous beginning of the ſecond head, ariſing like the former, from the ſeventh dorſal vertebra.

e f The beginning of the third head, ariſing in like manner at f from the eighth dorſal vertebra.

g h The beginning of the fourth head, ariſing in like manner at h from the ninth vertebra.

i k The beginning of the fifth head, ariſing in like manner at k from the tenth vertebra.

l The portion or head that joins the biventer cervicalis, ariſing from the ſide of the ſpine of the 12th dorſal vertebra. It joins to the middle tendon and belly.

m The middle tendon, betwixt the bellies.

n The tendinous portion of the ſecond belly.

o The extremity that is outwardly tendinous, and inſerted at p p into the back part of the occipital bone, at the ſide of its middle, a little lower than where the cucullaris begins.

Add here Fig. 24. a b c d e f g g.

The *ſyſtematic connexion* appears in Tab. VII. f—n in the neck and trunk; where below it is cover'd by the longiſſimus dorſi Ψ, and tranſverſus colli. Then in Tab. VI. M N in the neck, and y in the back; where it is covered by the ſplenius capitis P, the ſplenius colli T U V, and ſerratus poſticus ſuperior æ b: and what there appears naked in the lower part of the left ſide at y, the ſame is in the right ſide covered by the rhomboides major p p q. Then in Tab. V. y in the neck; where the reſt of it is covered by the ſplenius capitis z, the cucullaris C, and ſternocleidomaſtoideus x.

q r s t u v w x The *complexus cervicalis.*

q r The

q r The tendinous beginning of the firſt head, ariſing at r from the poſterior and upper part of the tranſverſe proceſs of the tenth dorſal vertebra, near its end.

s t The tendinous beginning of the ſecond head, ariſing in like manner at t from the eleventh vertebra of the back.

u v The tendinous beginning of the third head, ariſing in like manner at v from the twelfth or uppermoſt dorſal vertebra.

w The tendinous portion, which enters at

x The biventer, and is conjoined and inſerted therewith.

Add here Fig. 24. h—x.

The *ſyſtematic connexion* of the complexus appears in Tab. VII. u v in the neck and trunk; where, as here, a great part of it lies behind the biventer f—n, and trachelomaſtoideus z A, with the tranſverſus cervicalis, and longiſſimus dorſi Ψ. Thoſe parts of it which appear naked in the ſaid Tab. VII. lie behind the ſplenius capitis P, and ſplenius colli T, Tab. VI. in the neck. Anteriorly it appears in Tab. III. E′ in the left ſide of the neck; where it is covered by the obliquus ſuperior capitis Æ; and what is there uncovered, is in Tab. II. ſeated behind the biventer of the lower jaw y in the neck.

FIGURE XXIV.

The biventer cervicalis and complexus, laterally.

a b c d e f g g The *biventer cervicalis.*

a The lower part, to be obſerved in Fig. 23.

b c The portion or head that joins the biventer, ariſing at c from the ſide of the ſpine of the 12th dorſal vertebra, near the tip or end of the ſaid ſpine.

d The middle tendon, betwixt the bellies.

e The tendinous portion of the ſecond belly.

f The extremity that is outwardly tendinous, and inſerted at g g into the back part of the occipital bone, at the ſide of its middle, a little lower than where the cucullaris begins.

Add here Fig. 23. a—p.

The *ſyſtematic connexion* appears in Tab. IX. τ in the head and neck; where it is covered by the ſplenius capitis υ, the ſplenius colli φ, the cucullaris Γ ω, and ſternocleidomaſtoideus ϱ σ.

h i k l m n o p q r s t u v w x x The *complexus.*

h i The tendinous beginning of the firſt head, ariſing at i from the poſterior and upper part of the tranſverſe proceſs of the tenth dorſal vertebra, near its extremity.

k l The tendinous beginning of the ſecond head, ariſing in like manner at l from the eleventh dorſal vertebra.

m n The tendinous beginning of the third head, ariſing in like manner at n from the twelfth or uppermoſt vertebra of the back.

o p The tendinous beginning of the fourth head, ariſing at p from the poſterior and upper part of the tranſverſe proceſs of the firſt or lowermoſt vertebra of the neck, near its oblique aſcending proceſs.

q r The

q r The tendinous beginning of the fifth head, ariſing at r from the outer and back part of the root of the oblique aſcending proceſs of the 2d vertebra of the neck, whence it is continued as far as the root of the tranſverſe proceſs.

s t The tendinous beginning of the ſixth head, ariſing in like manner at t from the oblique aſcending proceſs of the third cervical vertebra.

u v The tendinous beginning of the ſeventh head, ariſing at v in the ſame manner from the oblique aſcending proceſs of the fourth cervical vertebra.

The origin of the fifth, ſixth, and ſeventh heads of this muſcle, from the external lateral edge of the oblique deſcending proceſſes of the third, fourth, and fifth cervical vertebræ, cannot be ſeen in this figure.

w The tendinous portion of the belly.

x x The place where the complexus paſſes under the biventer, and afterwards joins and inſerts itſelf therewith juſt below it.

Add here Fig. 23. q—x.

FIGURE XXV.

The ſternocleidomaſtoideus, anteriorly.

a The *ſternomaſtoideus.*

b The tendinous beginning, by which it ariſes at c c from the anterior and upper part of the ſternum, near the head of the clavicle.

d The tendinous end, inſerted at e e into the outer part of the maſtoide proceſs, almoſt thro' its middle breadth from the top to the bottom.

f The *cleidomaſtoideus.*

g g Its origin, from the upper and fore part of the clavicle, near its head that is joined to the ſternum.

h Thence it joins itſelf with the ſternomaſtoideus, behind which the reſt is ſeated.

Add here Fig. 26.

The *ſyſtematic connexion* appears in Tab. II. η θ ι κ λ ν in the neck. Then in Tab. I. Φ μ in the neck, where the reſt is covered by the latiſſimus colli Ω, and its extremity is hid behind the outer ear.

FIGURE XXVI.

The ſternocleidomaſtoideus, poſteriorly.

a b The inner and fore part of the ſternomaſtoideus. b the tendinous beginning.

c The inner and fore part of the cleidomaſtoideus.

d The outer and back part of the ſternomaſtoideus and cleidomaſtoideus conjoined together.

e The tendinous end, inſerted in a crooked courſe at f g into the outer part of the maſtoide proceſs, from the top to the bottom, almoſt thro' the middle of its breadth; being continued backward to part of the temporal bone, and of the occipital bone g h, that are adjacent to the ſaid maſtoide proceſs.

Add here Fig. 25.

The *ſyſtematic connexion* appears in Tab. V. u &c. in the neck. Laterally in Tab. IX. ϱ in the neck, where it is partly covered by the latiſſimus colli μ.

FIGURE XXVII.

The ſplenius capitis.

a The tendinous beginning of the firſt head, ariſing from the ſpinal proceſs of the eleventh vertebra of the back.

b The tendinous beginning of the ſecond head, ariſing from the ſpinal proceſs of the twelfth vertebra of the back.

c The tendinous beginning of the third head, ariſing from the ſpinal proceſs of the firſt vertebra of the neck.

d d The part, which proceeds from the ligament of the neck; of which the beginning e, is tendinous.

f The tendinous end, inſerted at g g into the poſterior lateral, and outer part of the maſtoide proceſs, thro' its whole length; and thence it is continued backward to an adjacent part of the temporal and occipital bone h h, almoſt to the part that is in the middle betwixt the root of the maſtoide proceſs, and middle of the occiput.

The *ſyſtematic connexion* appears in Tab. VI. P in the neck; where it is covered below by the ſerratus poſticus ſuperior æ b. Then in Tab. V. z in the neck, naked in that part; but the reſt is covered by the cucullaris B, and in the end by the ſternocleidomaſtoideus u. Then laterally in Tab. IX. υ in the neck, naked in that part; but in the reſt covered by the cucullaris ω, and the ſternocleidomaſtoideus ϱ.

THE

THE

Seventeenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE HEAD.

FIGURE I.

The rectus capitis posticus minor.

a The origin of it from the eminence in the atlas, which is instead of a spinal process: from which origin it is outwardly tendinous at b.

c c The extremity inserted into the occipital bone; namely into the excavation that is betwixt the great foramen and the end of the complexus, near the middle spine or ridge that is extended backward from the great foramen.

The *systematic connexion* of it appears in Tab. VIII. a &c. in the head and neck; where it is partly covered by the *rectus posticus major* d: and what appears there to be uncovered, in Tab. VII. lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE II.

The rectus capitis posticus major.

a Its origin from that part of the upper edge of the spine of the sixth vertebra of the neck, that is near the root of the horn, and from the horn itself.

b b The end inserted into the occipital bone, near the middle betwixt that part of the appendix of the lambdoide suture, which is formed by the occipital and mammillary bone; and from the lateral part of the great foramen, that is behind the coronoide process; in the middle betwixt the end of the complexus, the upper obliquus, and the rectus posticus minor.

The *systematic connexion* appears in Tab. VIII. d &c. in the head and neck; where its end goes under the obliquus superior g. But in the VIIth table it lies behind the complexus and biventer cervicalis, u l in the neck.

FIGURE III.

The obliquus capitis ſuperior.

a The origin from the upper part of the end of the tranſverſe proceſs of the atlas: from which origin it is outwardly tendinous at b.

c c The extremity inſerted into the occipital bone, betwixt that part of the appendix of the lambdoide ſuture, which is formed by the os occipitis and mammillare; and the part into which is inſerted the rectus poſticus major.

The *ſyſtematic connexion* appears in Tab. VIII. g &c. in the head and neck. Then in Tab. VII. w x in the neck; where the reſt of it is covered by the complexus u, the biventer cervicalis l, and the trachelomaſtoideus z B: and what appears there uncovered, is in Tab. VI. concealed behind the ſplenius capitis, P in the neck. Anteriorly it appears in Tab. IV. s in the head, and in Tab. III. Æ in the head.

FIGURE IV.

The obliquus capitis inferior.

a Its origin from the upper part of the ſide of the ſpine of the epiſtrophæus, thro' the whole length of the ſpine, and a large part of its horn, by a tendinous beginning.

b The extremity, inſerted into the poſterior amplitude of the end of the tranſverſe proceſs of the atlas.

The *ſyſtematic connexion* appears in Tab. VIII. k &c. in the neck. Then in Tab. VII. y in the neck, where the reſt of it is covered by the complexus u, and the trachelomaſtoideus z B: and what there appears uncovered, is in Tab. VI. concealed behind the ſplenius capitis P in the neck.

FIGURE V.

The rectus capitis lateralis.

a a Its origin from the anterior and upper part of the tranſverſe proceſs of the atlas.

b The extremity, which is outwardly tendinous, and inſerted at c into the unequal ſurface of the occipital bone, that is near the maſtoide proceſs, and by the back part of that edge of the occipital bone which forms the poſterior margin of the foramen, thro' which the internal jugular vein paſſes out.

The *ſyſtematic connexion* could not be repreſented.

c Part of the occipital bone, that is before the great foramen.

d The lunar edge of the occipital bone, that belongs to the foramen, thro' which the internal jugular vein paſſes out.

FIGURE

FIGURE VI.

The rectus capitis internus minor.

a The tendinous beginning, by which it ariſes at b b from the anterior and upper part of the body of the atlas, near the root of the tranſverſe proceſs, and from the root itſelf.

c The tendinous end, by which it is inſerted at d into the lower and back part of the edge of the occipital bone, which is ſlightly connected with the os petroſum; and particularly into the protuberance which ſtands out from the ſaid edge before the coronoide proceſs; and near the ſame at e, mixes itſelf likewiſe with a ſort of cartilaginous ſubſtance, that fills the ſpace at the bottom of the occipital bone and os petroſum, that is placed before the fiſſure, thro' which paſſes out the eighth nerve of the brain.

The *ſyſtematic connexion* could not be repreſented. It lies partly behind the rectus internus major Fig. 19. Tab. XVI. and lies partly naked on the outer ſide of the ſaid rectus major internus.

f Part of the occipital bone, that is before the great foramen.

g The lunar edge of the occipital bone, that belongs to the foramen, thro' which paſſes out the internal jugular vein.

MUSCLES OF THE COCCYX.

FIGURE VII.

The coccygeus, in its back part.

a The tendinous beginning, ariſing at b from the tip of the acute proceſs of the iſchium.

c Part of the tendinous beginning, which proceeds from the inner part of the acute proceſs.

Betwixt a and c the tendinous beginning interweaves itſelf.

Add here Fig. 8.

The *ſyſtematic connexion* appears in Tab. VI. d in the lower part of the trunk, where it lies behind a certain portion of the levator ani e. In Tab. V. it lies behind the gluteus magnus γ in the buttock.

FIGURE VIII.

The coccygeus, in its fore part.

a The tendinous beginning, by which it ſprings at b from the inner part of the tip of the acute proceſs of the iſchium.

c The

c The tendinous end, by which it is inſerted at d into the inner part of the edge of the os ſacrum near its coccyx, and into the firſt bone of the coccyx e, to the ſecond f, to the third g; and is alſo continued to the ligament h, that is placed betwixt the os ſacrum and firſt bone of the coccyx; and the ligament i, that is betwixt the firſt and ſecond bone of the coccyx, and that k, which is betwixt the ſecond and third.

Add here Fig. 7.

MUSCLES OF THE THORAX.

FIGURE IX.

The ninth outer intercoſtal, in its back part.

The example here given is only of the outer intercoſtals: to which add Tab. VIII. H I K L M N O P Q R S in the back.

a b b Its origin from the outer and lower part of the ninth rib, particularly from the part a, where the rib begins to project beyond the tranſverſe proceſs to which it is connected.

c c c The inſertion into the outer and upper part of the tenth rib.

Add here Fig. 10.

The *ſyſtematic connexion* appears in Tab. VIII. H I K L M N O P Q R S in the back; where they are in part covered by the ſhort elevators of the ribs λ. μ. ν. ξ. ο. π. ρ. σ. ς. τ. υ: and the ninth, tenth, and eleventh of them are likewiſe in part covered by the longer elevators of the ribs A F G. Then in Tab. VII. N. O. P. Q. R R. S S. T. U. V. W in the trunk; where they are covered by the ſacrolumbalis ν—Π, with the cervicalis deſcendens D; and (except the firſt, with the ſecond N, the third O, and the fourth P) they are covered by the ſhorter elevators K. L. M: but the firſt of them lies hid behind the ſhorter elevator I, and the poſterior ſcalenus F: and in part alſo are hid behind the longiſſimus dorſi Φ Σ Ψ, the fifth, ſixth, ſeventh, and eighth. Then in Tab. VI. φ. χ. ψ. ω. Γ. Δ Δ. Θ. Λ in the left ſide of the back; where what appears naked of them in Tab. VII. is for the moſt part covered by the ſerratus poſticus ſuperior æ b, by the ſerratus magnus Π—B, and by the ſerratus poſticus inferior C—L: the right ſide is alſo agreeable to this, except that the 4th part φ, the fifth χ, and the ſixth ψ, which are naked in the left ſide, are in this covered by the rhomboides major q; and part of the ſeventh ω is alſo covered. And what appears naked in the right ſide of Tab. VI. the ſame is covered by the latiſſimus dorſi Tab. V. P in the back.

Anteriorly it appears in Tab. IV. ς. σ. τ. υ. φ. χ. ψ. ω. A in the trunk; and in Tab. III. G. L. M. N. O. P. Q. R. S in the trunk. Then in Tab. II. K. K. K. K. K. K in the trunk; where they are covered by the ſerratus magnus Ψ—G, and the ſerratus anticus υ in the breaſt, and the firſt alſo lies hid behind the ſubclavius σ in the breaſt. And the naked part of the firſt in Tab. II. is covered

covered by the pectoralis ξ Tab. I. in the trunk: and of the reſt by the obliquus externus of the abdomen d, &c.

Interiorly the firſt appears in Tab. IV. ς, the ſecond ς, the third τ with the thorax, below the neck; where the ſecond ς is covered by the ſecond inner intercoſtal C.

FIGURE X.

The ninth outer intercoſtal, laterally.

a a a Its origin from the outer and lower part of the ninth rib.
b b b Its inſertion into the outer and upper part of the tenth rib.
Add here Fig. 9.

FIGURE XI.

The ninth inner intercoſtal, laterally.

We here give only one example of inner intercoſtals, to which
Add Fig. 12. and 13.

FIGURE XII.

The ninth inner intercoſtal, anteriorly.

We here give only one inſtance among the inner intercoſtals: to which add Tab. VIII. T. U. V. W. X. Y. Z. a. æ. b. c in the back.

Add here Fig. 11. and 13.

The *ſyſtematic connexion* appears in Tab. VIII. T. U. V. W. X. Y. Z. a. æ. b. c in the back. But in the right ſide they lie concealed behind the outer intercoſtals H. I. K. L. M. N. O. P. Q. R. S in the back, except part of the eleventh internal intercoſtal marked c, which alſo appears in Tab. VII. X in the trunk, and in Tab VI. Ξ in the back, partly covered by the obliquus internus of the abodomen R S; and what part there remains uncovered, is in Tab. V. covered by the obliquus externus of the abdomen, W in the trunk, and latiſſimus dorſi P in the back.

Anteriorly the ſyſtematic connexion appears in Tab. IV. B. C. D. E. F. G. H. I. K in the left ſide of the trunk. Then in the right ſide B C D; where they are covered by the external intercoſtals ς. ς. τ: but more fully in Tab. III. T. Y. Z. a. b. c. d. e. f. g. h. i. k in the trunk, covered by the external ones G. L. M. N. O. P. Q. R. S. Then in Tab. II. L. L. &c. in the trunk; where they are likewiſe covered by the external ones K K &c. alſo the ſecond, third, and fourth are covered by ſerratus anticus υ in the breaſt; alſo the anterior ſeparate portions of the fifth, ſixth and ſeventh, in part lie under the rectus of the abdomen Z &c. And what parts appear naked in that laſt cited table, in Tab I. lie behind the pectoralis ξ in the trunk, and obliquus externus of the abdomen d &c.

FIGURE

FIGURE XIII.

The ninth and tenth internal intercoſtals, internally.

a a b b b c c d d d e The *ninth internal intercoſtal.*

a a The tendinous beginning, by which it ariſes at b b b from the lower edge of the inner ſide of the ninth rib, and from the upper edge of the groove in which are lodged the intercoſtal veſſels.

c c The tendinous end, by which it inſerts itſelf at d d d into the inner part of the upper edge of the tenth rib, and in the part e obliquely a-croſs the inner ſide or breadth of the rib.

f The portion of the ninth internal intercoſtal muſcle, that deſcends lower than the reſt, and paſſing over the tenth rib, is inſerted into the eleventh.

g Its beginning, that is for a good way tendinous.

h Its tendinous end, inſerted at i i with the tenth intercoſtal, into the inner part of the upper edge of the eleventh rib.

k l l m n n n The *tenth internal intercoſtal.*

k The tendinous beginning, by which it ariſes at l l from the lower part of the inner ſide of the tenth rib; as the ninth does from the ninth rib.

m The tendinous end, by which it inſerts itſelf at n n n into the inner part of the upper edge of the eleventh rib.

Add here Fig. 11. and 12.

The *ſyſtematic connexion* of the ſecond, appears in Tab. IV. C C below the neck within the thorax. That of the eleventh appears in Tab. IV. L L L in the trunk; where the diaphragm U Θ Π Π lies thereon, and upon the ninth at U Σ Σ Σ Ω. And in Tab. VIII. æ in the right ſide of the back.

FIGURE XIV.

The elevator brevis of the tenth rib.

This is propoſed as an example for the reſt. See Tab. VIII. κ. λ. μ. ν. ξ. ο. π. ρ. σ ς. τ. υ in the back.

a a The origin from the tranſverſe proceſs of the fourth vertebra of the back, from the lower part almoſt of its whole length.

b The tendinous part of its beginning.

c c The extremity, inſerted into the upper edge of the tenth rib; into the acute eminence which ariſes out from thence, where it begins to depart from the bodies of the vertebræ; and beyond that it goes on a little farther than where the rib is jointed with the tranſverſe proceſs, or near the extremity where there is an unequal excavation or groove extended thro' it: alſo into the outer part of the upper margin a little beyond the ſaid proceſs.

d The tendinous part of the extremity.

The *ſyſtematic connexion* appears in Tab. VIII κ. λ. μ. ν. ξ. ο. π. ρ. σ. ς. τ. υ in the back; where, except the three firſt, they are covered by the intertranſverſarii of the back f. g. h. i. k. l. m. n. o: the ninth, tenth, and eleventh, are covered

covered by the longer elevators A. F. G: the three firſt are covered by the ſpinalis colli 6. 7. 8; and again the fourth, fifth, and ſixth in the ſame manner; but the ſeventh, eighth, ninth, and tenth are covered by the ſemiſpinalis dorſi t. s. r. q; and all of them by the multifidus. But in Tab. VII. they are likewiſe covered by the longiſſimus dorſi μ Σ Ψ, and ſacrolumbalis ν—Π, with the cervicalis deſcendens, D in the trunk; and ſome of the uppermoſt are alſo hid by the tranſverſalis colli C C, and by the complexus cervicalis u; over the firſt and ſecond is ſpread the ſcalenus poſticus F: thoſe partly naked are the ſecond I, the third K, the fourth L, the fifth M; and upon thoſe parts, in Tab. VI. is ſeated the ſerratus poſticus ſuperior æ b in the left ſide of the back; where only a part of the fifth φ lies naked, which in the right ſide is covered by the rhomboideus major q.

Anteriorly the ſyſtematic connexion of the firſt elevator brevis appears in Tab. IV. σ in the neck; is in part covered by the middle ſcalenus, the tail ∂ belonging to the tranſverſe proceſs of the firſt vertebra of the neck. And in Tab. III. Ξ in the neck; it is likewiſe covered by the tail c of the ſaid middle ſcalenus.

FIGURE XV.

The elevator longus of the tenth rib.

This is given as an example of the reſt. Add here Tab. VIII. F. G in the back.

a The origin from the lower edge of the back part of the tranſverſe proceſs of the fifth dorſal vertebra.

b The tendinous part of its beginning.

c The end, inſerted into the back part of the upper edge of the tenth rib, near the outer ſide of the elevator brevis, where the rib more inclines itſelf downwards.

d The tendinous part of the extremity.

The *ſyſtematic connexion* appears in Tab. VIII. A. F. G in the back; where they lie partly under the intertranſverſarii of the back i. h. g. Then again they are covered over by the longiſſimus dorſi with the ſacrolumbalis Tab. VII. μ &c. in the trunk.

FIGURE XVI.

The ſerratus poſticus ſuperior.

a The tendinous part, by which it begins and ariſes at b b from the ligament of the neck, from whence it is cut off about the ſecond and third ſpinal proceſs of the neck from the back; from the ſpine of the firſt cervical vertebra c, from the twelfth of the back d, and from the eleventh e; and in the intervals betwixt thoſe ſpines f. g they cohere with the next muſcles.

h i k l The four extremities, into which this muſcle divides itſelf, and which it inſerts into the ſecond, third, fourth, and fifth ribs, where they firſt begin

to bend themſelves forwards, and are inſerted along the upper edge and outer ſide of the ribs.

m The tendinous end of the firſt, inſerted into the ſecond rib.

n The tendinous end of the ſecond, inſerted into the third rib.

o That of the third, inſerted into the fourth rib.

p That of the fourth, inſerted into fifth rib.

The *ſyſtematic connexion* appears in Tab. VI. æ &c. in the left ſide of the neck and back; where it covers part of the elevator ſcapulæ Z, and paſſing with its extremities under the ſcapula, it lies under the ſerratus magnus. Then in the right ſide æ b; where alſo it in part covers the elevator ſcapulæ Z: but the reſt is covered by the rhomboides minor m, and the rhomboides major p p q; and what part appears there naked, the ſame is in Tab. V. ſeated behind the cucullaris B in the neck and back.

FIGURE XVII.

The ſerratus poſticus inferior.

a The tendinous part, which ariſes with the latiſſimus dorſi from the ſpine of the 3d dorſal vertebra b, from the ſpine of the 2d c, from the ſpine of the 1ſt d, from the fifth or uppermoſt of the loins e, from the 4th f, from the 3d g: and in the intervals betwixt the ſpines h i k l m, it coheres with the next muſcles.

n The firſt extremity, which is broader than the reſt, and inſerted at o o into the ninth rib, into the outer part of its lower edge, almoſt where it bends itſelf in the ſide from the back forwards.

p The ſecond end, inſerted into the tenth rib q q. Much narrower than the laſt preceding head above it.

r The third extremity, inſerted into the eleventh rib s s. Still narrower than that next above it.

t The fourth end or extremity, inſerted into the twelfth rib u u; being ſtill narrower than that next above it.

Add here Fig. 3. Tab. XIV.

The *ſyſtematic connexion* appears in Tab. VI. C &c. in the lower part of the trunk; where its origin is covered over by the tendon U, by which the latiſſimus dorſi begins. In Tab. V. it lies wholly concealed behind the latiſſimus dorſi P &c. in the back.

MUSCLES OF THE SHOULDER, COMPOSED OF THE SCAPULA AND CLAVICLE.

FIGURE XVIII.

The cucullaris.

a b b c d e f g The tendinous beginning.

a The broader part of its beginning, ariſing at b b c from the middle and thick part of the occipital bone, and from its lateral edge.

From c to e it coheres with its fellow, and with that

from c to d goes off from the cervical ligament, from whence it is here cut:

from d to e it ariſes from the ſpines of the two lower vertebræ of the neck, and all thoſe of the back, inveſting the back part of thoſe ſpines. In the intervals of the ſpines it coheres with the left cucullaris.

f The tendinous part of its beginning, which is broader towards the bottom of the neck, and upper part of the back.

g The broad tendinous portion of the lower angle.

h The tendinous part of its extremity, which is inſerted into the ſpine of the ſcapula at i, near its baſis.

Afterwards by the continued tendinous end k k, it is inſerted at i l into the outer part of the upper edge of the ſpine of the ſcapula, and of its upper proceſs.

m m The fleſh of the muſcle, whoſe upper fibres deſcend obliquely forwards to the clavicle; the lower aſcend to the ſpine of the ſcapula; the fibres even with the neck and back are tranſverſe, but incline more or leſs to deſcend or aſcend, as they are higher or lower.

Add here Fig. 19.

The *ſyſtematic connexion* appears in Tab. V. B &c. in the head, neck, and back. Laterally it appears in Tab. IX. ω &c. in the head, neck, and back.

FIGURE XIX.

The anterior part of the cucullaris.

a a Its inſertion into the upper and back part of the clavicle for that half its length, which is next the proceſſus acromion ſcapulæ.

Add here Fig. 18.

The *ſyſtematic connexion* of this part, appears in Tab. I. Ψ in the neck, where it is in part covered by the latiſſimus colli Ω &c.

MUSCLES OF THE CLAVICLE.

FIGURE XX.

The ſubclavius.

a The tendon by which it begins, running thro' the lower part of its fleſh, and ariſing at b from the outer part of the cartilaginous end of the 1ſt rib.

c c The end, inſerted into the lower part of the clavicle, all the way from a part not far diſtant from its firſt, as far as that head which lies upon the coracoide proceſs.

The *ſyſtematic connexion* appears in Tab. II. σ ς ς in the breaſt, where part lies hid behind the coracoide proceſs. In Tab. I. it lies behind the pectoralis ξ in the trunk, and the deltoides M in the ſhoulder: and betwixt them it lies hid behind the latiſſimus colli θ α in the trunk. Poſteriorly its connexion appears in Tab. VI. θ near the ſhoulder.

MUSCLES OF THE SCAPULA.

FIGURE XXI.

The ſerratus magnus.

a The firſt head, which ariſes at b from the outer and lower part of the 1ſt rib, and from its origin c adheres to the firſt external intercoſtal.

d The ſecond head, which ariſes at e from the whole height or breadth of the 2d rib, and from its origin f adheres to the 1ſt outer intercoſtal muſcle.

g The firſt and ſecond head conjoined in one, the thick portion ariſing from which is inſerted tendinous at h, principally into the inner ſide of the very ſhort margin of the ſcapula, betwixt the baſis and the upper rim.

i The third head, ariſing at k k k from the outer part of the lower edge of the ſecond rib. It grows broad in the ſhape of a triangle, and is inſerted into the greater part of the baſis of the ſcapula, on its inner ſide.

m The fourth head, which ariſes at n n from the outer part of the third rib, and from its beginning adheres at o o to the third outer intercoſtal, and is inſerted by its tendinous end p into the baſis of the ſcapula, below the 3d head.

q The fifth head, which ariſes at r r from the outer part of the fourth rib, and is inſerted by its tendinous end s into the lower angle of the ſcapula, juſt beneath the fourth head.

t The ſixth head, adhering at u u from its beginning to the fourth outer intercoſtal, and ariſing at v from the outer part of the fifth rib. It is inſerted

at

at w into the lower angle of the ſcapula, juſt beneath the fifth head, by a tendinous extremity.

x The ſeventh head, which from its origin y y adheres to the fifth outer intercoſtal, and ariſes at z from the outer part of the ſixth rib. 'Tis inſerted at A in the bottom of the lower angle of the ſcapula, by a tendinous extremity, juſt beneath the ſixth head.

B The eighth head, adhering from its beginning C C to the ſixth outer intercoſtal, and ariſing at D from the outer part of the ſeventh rib.

E The ninth head, adhering from its beginning F F to the ſeventh outer intercoſtal, and ariſing at G from the outer part of the eighth rib.

H The tenth head, adhering from its origin I I to the eighth outer intercoſtal, and ariſing at K from the outer part of the ninth rib.

L The common tail or inſertion of the eighth, ninth, and tenth heads, ending tendinous in the lower angle of the ſcapula. With this inſertion the ſeventh head is likewiſe conjoined in ſome bodies.

M N N O The place from whence the ſcapula is removed, that the ſubjacent part of the ſerratus may appear. A very ſmall edge of the ſcapula is left at M, betwixt the baſis and upper edge: and at N N is left part of the baſis; and of the lower angle at O.

The *ſyſtematic connexion* appears in Tab. IX. K L M N O P Q in the trunk; where it is covered by the ſerratus anticus G, the pectoralis H, the latiſſimus dorſi Ω, and by the heads U V W of the obliquus externus of the abdomen.

Anteriorly its connexion appears in Tab. II. Ψ Ω A B C D E F G &c. in the trunk; where it is alſo covered by the ſerratus anticus υ &c. and lies hid behind the ſubclavius σ &c. Then in Tab. I. χ ψ ω a b in the trunk; where it is covered by the pectoralis ξ in the breaſt; and by the heads of the obliquus externus of the abdomen e. f. g in the trunk, and by the latiſſimus dorſi τ.

Poſteriorly its connexion appears in Tab. VI. Π Σ Φ Ψ Ω A B in the ſide of the thorax, and ζ at the ſhoulder; where the reſt lies under the ſcapula and the ſubſcapularis muſcle, that adheres to the inner ſide of the ſaid bone, and under the adjacent muſcles, as the teres major ψ in the ſcapula, the rhomboides major x in the back, the elevator ſcapulæ Z in the neck, and the coracohyoideus η at the ſhoulder. And what appears naked in that table, is in Tab. V. placed under the latiſſimus dorſi P in the back, and the cucullaris B in the neck and back.

FIGURE XXII.

The ſerratus anticus.

a b The firſt head, by which it ariſes at c c from the outer part of the upper edge of the end of the bony part of the third rib, and at d from its adjacent cartilage. b the thin tendinous part.

e f The ſecond head, by which it ariſes at g g from the outer part of the fourth rib, in an oblique courſe, at its upper part, near its cartilaginous end, and from the adjacent cartilaginous part itſelf at h, whence it inclines downward and backward. f the thin tendinous part.

i k The

i k The 3d head, by which it ariſes at l from the outer part of the upper edge of the 5th rib, not far from its cartilaginous end. k its thin tendinous part.

l m The tendinous end, which begins to appear tendinous before, at m in the margin of the muſcle, that lies towards the axilla. It is inſerted at n into the upper and inner part of the coracoide proceſs of the ſcapula, not far from the extreme tip of that proceſs.

The *ſyſtematic connexion* appears in Tab. II. υ &c. in the breaſt. In Tab. I. it lies under the pectoralis ξ in the trunk, and the deltoides M in the ſhoulder. Laterally it appears in Tab. IX. G in the trunk; where from the raiſed poſition of the arm, part of it appears uncovered by the pectoralis H.

FIGURE XXIII.

The rhomboideus minor.

a The tendinous beginning, by which it ariſes from the ligament of the neck, near the ſpines of the three lower cervical vertebræ; where it is cut off from the ligament b b.

c c The end inſerted into the ſcapula, at that part of its baſis which is near the riſing ſpine, where the baſis forms an angle with the upper margin.

The *ſyſtematic connexion* appears in Tab. VI. m in the back. In Tab. V. it lies under the cucullaris B in the neck and back.

FIGURE XXIV.

The rhomboideus major.

a The tendinous origin, by which it ſprings at b from the ſide of the end of the tip of the ſpinal proceſs of the firſt or loweſt vertebra of the neck, the uppermoſt or twelfth of the back c, of the 11th d, of the 10th e, and of the 9th f. And in the ſpaces betwixt thoſe ſpines it coheres with the adjacent or neareſt muſcles, from whence it is here cut off at g. g. g. g.

h i The part where the muſcle bends itſelf in the direction of the baſis of the ſcapula, but without inſerting itſelf.

i From thence its extremity is inſerted into the baſis of the ſcapula, as far as its lower angle k.

The *ſyſtematic connexion* appears in Tab. VI. p &c. in the back; where it lies partly under the rhomboideus minor m. In Tab. V. it lies under the cucullaris B in the back, and the latiſſimus dorſi P, a ſmall part being naked at L.

THE

THE

Eighteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE HUMERUS.

FIGURE I.

The latiſſimus dorſi, laterally.

a a The broad tendon, by which it begins.
b The fleſhy part.
c d The place where the broad tendon is cut off, where it coheres with the origin of the gluteus magnus.
d e The origin of the broad tendon, from the outer part of the margin of the middle of the ſpine of the ilium.
f. g. h The heads, which ariſe in the ſide of the body from the outer part of the ribs: f that from the eleventh rib, g that from the tenth, h from the ninth. That from the twelfth rib, lies under the part that ſprings from the os ilium, and therefore does not appear in the figure.
i The place where it bends itſelf to the teres major.
k l The inner portion: of which k denotes the fleſhy part; l the tendon in which it ends.
Add here Fig. 2. and 3.
The *ſyſtematic connexion* appears in Tab. IX. Ω &c. in the trunk; where at its origin 'tis covered by the cucullaris ω, and with its end paſſes under the arm.

FIGURE II.

The latiſſimus dorſi, poſteriorly.

a a The broad tendon, by which it begins.
b b Its origin from the ends of the ſpines of the ſix lower vertebræ of the back,

back, from the ſpines of the lumbal vertebræ, and from thoſe of the os ſacrum.

c d Its origin from the oblique proceſſes, that are at the ſides of the opening in the os ſacrum, where the canal of the ſpina dorſi terminates.

d e The part that coheres with the beginning of the gluteus magnus, from whence it is cut off.

e f Its origin from the outer edge of the middle portion of the ſpine of the ilium.

g The fleſhy portion.

h The place where it bends itſelf to the teres major.

i k The inner portion: of which i denotes the fleſhy part; k the tendon, in which it ends.

Add here Fig. 1. and 3.

The *ſyſtematic connexion* appears in Tab. V. P &c. in the back, where it is covered at its origin by the cucullaris B F, while its end paſſes under the teres major O.

FIGURE III.

The latiſſimus dorſi, anteriorly.

a b The heads, which ariſe from the ribs. a that from the tenth rib. b that from the ninth.

c The anterior fleſhy portion.

d The inner fleſhy portion, coming from the back: here cut off at e e.

f The tendon, in which it ends, inſerted at g g a little below the leſs unequal protuberance in the upper head of the os humeri, into the fore part of the eminence h h, that terminates the ſinus or channel backward, thro' which deſcends the tendon of the biceps muſcle of the arm; and then running lower than the ſaid ſinus, where it meets the tendon of the pectoralis, it in part joins and continues itſelf thereto.

Add here Fig. 1. and 2.

The *ſyſtematic connexion* appears in Tab. I. τ υ Φ in the trunk; where in its upper part it lies behind the pectoralis ξ. In Tab. II. part of the end Φ in the humerus, is covered by the coracobrachialis and biceps of the arm u w y z: which in Tab. I. is covered by the pectoralis ξ in the trunk, and the deltoides M &c. in the humerus.

FIGURE IV.

The pectoralis, anteriorly.

a a Its origin from almoſt all the fore ſide of that part of the clavicle, which is incurvated towards the thorax.

b b b Its origin from the anterior part of the os pectoris, all the way from the root of that part which ſuſtains the clavicle, as far as the inſertion of the cartilage that ſuſtains that ſixth rib.

c Its

c Its origin from the outer part of the end of the cartilage of the 6th rib.

d e Its origin from the upper part of the outer ſide of the cartilage of the ſeventh rib, almoſt at its end, where the origination is for ſome way thin and tendinous: and of which the lower part e may be ſaid to belong to the pectoralis, or to the aponeuroſis of the obliquus externus of the abdomen.

f f The part where it coheres with the aponeuroſis of the external obliquus of the abdomen, from whence it is cut off.

g The portion that joins this muſcle from the aponeuroſis of the external obliquus of the abdomen. h h the place where 'tis cut off from that aponeuroſis.

The portion of this muſcle that ariſes from the fore part of the whole cartilage, and often from the bony end itſelf of the fifth rib, lies here under the muſcle; as alſo do the portions, which it receives from the fore parts of the cartilages, which the four upper ribs ſend to the os pectoris, and from the adjacent parts of the os pectoris itſelf.

i i The foot-ſteps or marks impreſſed on this muſcle by the deltoides, under which it in part lies.

k The tendon, in which the upper part ends; inſerted at l l into the oblong eminence of the os humeri, that is ſeated in its inner ſide, a little below the large unequal protuberance of the upper head of the humerus, lying along the ſide of the ſinus, and terminating the ſame before, thro' which the biceps detaches one of its heads. But the tendon ends in that part of the ridge or eminence, that looks towards the ſinus.

Add here Fig. 5.

The *ſyſtematic connexion* appears in Tab. I. ξ in the trunk; where it is in part covered by the latiſſimus colli α α α, and by the deltoides M &c. in the ſhoulder.

Laterally its connexion appears in Tab. IX. H I in the trunk.

FIGURE V.

The end of the pectoralis, in its back part.

a b Portions of its anterior extremity, of which a is tendinous throughout, b is a thin tendinous ſurface. The reſt is covered by the poſterior extremity.

c The lower portion, that coming from the anterior part, bends itſelf round the upper.

d d The poſterior tendinous end, which in its upper part croſſes the firſt end applied to it, and in the end connected with it.

e e f Its inſertion into the os humeri. See Fig. 4. l l.

g g g g A part of the os humeri cut out, in ſuch a manner as to ſhew the end of the muſcle, as it is inſerted.

Add here Fig. 4.

FIGURE VI.

The infraſpinatus.

a b Its origin from the back of the ſcapula, along its baſis; and from the lower part of the ſpine b—c. The reſt continues to ariſe from beneath the ſaid ſpine, as far as the root of its proceſſus acromion, and below that alſo from the ſinus, that is extended along the anterior and lower rim of the ſcapula.

d The tendon, that firſt begins to appear externally.

e f The fleſhy portions, that join to that tendon. e the upper, that goes off from the ſpine. f the lower portion, that comes from the lower angle.

g The tendinous end, inſerted at h into the upper and back part of the larger unequal protuberance, in the upper head of the os humeri.

The *ſyſtematic connexion* appears in Tab. VI. μ &c. in the ſcapula; where it in part lies under the teres minor τ, and by its extremity paſſes in ſome meaſure under the proceſſus acromion ſcapulæ. Then in Tab. V. I K in the back, where it is partly covered by the latiſſimus dorſi P, and the cucullaris B G, and likewiſe the deltoides ζ &c. in the ſhoulder.

Laterally its connexion appears in Tab. IX. Π in the trunk; where it is likewiſe covered in part by the latiſſimus dorſi Ω, and the cucullaris Ξ, and in part by the deltoides A &c. in the left arm.

FIGURE VII.

The coracobrachialis, in its fore part.

a a The coracobrachialis muſcle.

b Its common origin together with the ſhorter head of the bicipital muſcle of the arm, from the coracoide proceſs of the ſcapula.

c Part of the ſhorter head of the biceps brachialis, externally tendinous, and conjoined with the coracobrachialis: d d the place where the ſaid ſhort head is cut off.

e The tendinous excurſion or aponeuroſis that runs along the fleſh of the coracobrachialis, where the ſhort head of the biceps no longer coheres with it.

f The diviſion or ſlit in this muſcle, thro' which a nerve paſſes.

g Its inſertion, into the back part of the inner ſide of the os humeri, beneath the middle longitudinal portion of that bone.

Add here Fig. 8.

The *ſyſtematic connexion* appears in Tab. III. ζ η β &c. in the humerus, where at its end it is in ſome meaſure covered by the brachialis internus μ. Then in Tab. II. u in the arm; where it is in a great meaſure covered by the biceps brachialis w x. Then in Tab. I. R S in the arm, where it is likewiſe covered by the biceps brachialis X, the pectoralis ξ in the trunk, and the deltoides M in the ſhoulder.

FIGURE

FIGURE VIII.

The coracobrachialis, in its back part.

a The tendon, which here ſprings from two originations b c.
d The diviſion or ſlit in its fleſhy part, thro' which paſſes a nerve.
Add here Fig. 7.

The *ſyſtematic connexion* appears in Tab. VII. ν in the arm; where part lies under the teres major μ, and the ſubſcapularis ι, in the ſcapula: part behind the brachialis externus ξ ο in the arm: and part is hid by the os humeri. And what there appears naked, is in Tab. VI. covered by the extenſor longus C, and the extenſor brevis ω, in the humerus: a ſmall portion appears naked betwixt them and the teres major ψ in the ſcapula; and which in Tab. V. is covered by the deltoides ζ &c. in the ſhoulder.

FIGURE IX.

The teres major, in its fore part.

a The tendinous end, inſerted at b b into the oblong eminence c c, that is a little below the leſs unequal protuberance in the upper head of the os humeri.
Add here Fig. 10.

The *ſyſtematic connexion* appears in Tab. III. z α in the ſcapula, where it is in part covered by the ſubſcapularis v, and in part by the coracobrachialis η ζ in the arm. Then in Tab. II. Σ in the ſcapula, where it is likewiſe covered by the ſubſcapularis Λ in the ſcapula, and by the coracobrachialis u in the arm, and moreover by the extremity of the latiſſimus dorſi Φ in the ſcapula. Then in Tab. I. σ σ in the trunk, where it is covered by the latiſſimus dorſi τ, and is hid behind the pectoralis ξ: but in the right arm which hangs down, that part which appears uncovered in the left arm from its elevated poſition, is obſcured or hid from the view.

FIGURE X.

The teres major, in its back part.

a a Its origin, from the outer part of the lower angle of the ſcapula, and from the extreme part of its anterior edge.
b The tendinous part of its end.
Add here Fig. 9.

The *ſyſtematic connexion* appears in Tab. VII. κ λ μ in the ſcapula, where its extremity paſſes under the os humeri. Then in Tab. VI. ψ ψ near the ſhoulder, where part lies under the infraſpinatus ν σ, part under the teres minor τ, and part behind the extenſor longus C D in the arm: and in the left arm behind the extenſor brevis A. Then in Tab. V. O in the back, where likewiſe part of it

lies behind the infraſpinatus I, the teres minor N, and the extenſor longus o in the arm; alſo behind the latiſſimus dorſi P, and the deltoides ζ in the ſhoulder.

Laterally its connexion appears in Tab. IX. Ψ in the trunk, where part of it lies under the infraſpinatus Π, part under the latiſſimus dorſi Ω, and part under the deltoides A &c. in the left arm.

FIGURE XI.

The deltoides, in its fore part.

a The firſt portion of the firſt order, of which this muſcle is compoſed, ariſing tendinous at b b from the fore part of the clavicle c c, where that part is concave: and ſometimes alſo from the tip of the proceſſus acromion ſcapulæ.

d The anterior portion of the ſecond order, ariſing tendinous at e from the tip of the proceſſus acromion ſcapulæ f, betwixt the origins of the portions a and g, betwixt which it is placed and connected.

g The third portion of the firſt order, ariſing with a tendinous beginning h, from the extremity of the proceſſus acromion ſcapulæ, being from its origin conjoined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the ſecond order, which ariſes by a tendinous part l, conjoined with the tendinous beginning of the next portion g, from the proceſſus acromion ſcapulæ, betwixt the origin of the portion g, and that marked g in Fig. 12. 'Tis inſerted into the middle part m, betwixt the two oblong protuberances that are fixed in the os humeri, juſt above its middle; and it coheres in its extremity with the brachialis internus.

n The tendinous end, formed by the portions a d, and inſerted at o into the anterior of the foreſaid protuberances of the os humeri.

Add here Fig. 12.

The *ſyſtematic connexion* appears in Tab. I. M &c. in the humerus; where at its beginning 'tis covered by the latiſſimus colli α α α, and at its inſertion is covered by the biceps muſcle of the arm W.

FIGURE XII.

The deltoides, in its back part.

a The ſecond and poſterior of the firſt order of portions, of which this muſcle is compoſed, ariſing with a tendinous origin b b, (running for ſome way on its external ſurface) from the lower edge of the ſpine, and from a large part of the proceſſus acromion ſcapulæ.

d The poſterior portion of the ſecond order, ariſing with a tendinous beginning e, from the lower edge of the proceſſus acromion ſcapulæ f, betwixt the portions a and g, and from its origin conjoined together with the tendinous beginnings of the portions, betwixt which it is placed.

g The fourth portion of the ſecond order, ariſing with a tendinous beginning h, from the proceſſus acromion, bending itſelf into an arch i i, and conjoined

joined with the tendinous beginnings of the portions, betwixt which it is placed.

k The middle portion of the ſecond order, which ariſes by a tendinous beginning l, from the edge of the proceſſus acromion, and is conjoined into one with the tendinous beginning of the next portion g.

m m The tendinous end, formed by the portions a d, and inſerted at n n into the hindermoſt of the oblong protuberances in the os humeri, that are fixed juſt above its middle part: into which alſo the portion g inſerts itſelf.

o o The place where the fleſh is cut off, from its coheſion with the brachialis internus.

Add here Fig. 11.

The *ſyſtematic connexion* appears in Tab. V. ζ &c. in the ſhoulder; where at its beginning it lies under the cucullaris G in the back; at its end under the extenſor brevis ξ in the arm.

Laterally its connexion appears in Tab. IX. A &c. in the left arm; where its end lies behind the brachialis internus S.

FIGURE XIII.

The teres minor, in its back part.

a a Its origin, from the anterior and lower margin of the ſcapula, and from the whole outer part of the ſaid margin, from the lower angle of the ſcapula as far as its neck.

b The tendon, inſerted into the os humeri at c.

d e Fleſhy portions that are inſerted together with the tendon, the one above at d, the other below at e.

They are inſerted into the lower and back part of the larger unequal protuberance in the upper head of the os humeri, and into the extremity of the lower part of its neck.

Add here Fig. 14.

The *ſyſtematic connexion* appears in Tab. VI. τ in the ſcapula; where at its beginning it is partly covered by the infraſpinatus σ, and the teres major ψ. Then in Tab. V. N in the back; where it is alſo covered by the infraſpinatus I, the teres major O, and likewiſe by the deltoides ζ in the ſhoulder.

Laterally its connexion appears in Tab. IX. Φ in the trunk; where alſo at its beginning it is partly covered by the infraſpinatus Π, the teres major Ψ, and after that by the deltoides A &c. in the left arm.

FIGURE XIV.

The teres minor, in its fore part.

a a The tendinous part of its beginning.

b b Its origin from the anterior and lower margin of the ſcapula.

Add here Fig. 13.

FIGURE

FIGURE XV.

The ſubſcapularis.

a b c d e Five of the firſt order of the faſciculi or portions of which it is compoſed, and which ariſe from eminences in the hollow part of the ſcapula near its baſis: the firſt (a) from a little below the upper angle: the fifth e from the root of the lower angle: the three others b c d ariſe with tendinous portions f. f. f. f. f in the middle betwixt the former.

g h i k l Five of the ſecond order of the bundles of which it is compoſed; the four lower of which h i k l are placed betwixt the five of the firſt order; the uppermoſt g above the ſuperior of the former. m m m m m m the originations of them from the inner part of the ſcapula.

The third order of portions lie under the firſt in the intervals betwixt the faſciculi of the ſecond order. Theſe three orders in their origination take up the whole internal ſurface of the ſcapula, from its back part almoſt to its neck; and likewiſe occupy almoſt the whole lower part of the round margin of its anterior and lower rim of the coſta inferior.

n n The common end of the muſcular portions.

o The tendinous end which it forms; inſerted at p p into the leſs unequal protuberance of the upper head of the os humeri, from top to bottom.

q The fleſhy part of the extremity, inſerted beneath the foreſaid tendinous part into the os humeri, below the ſaid leſs protuberance.

r The leſs unequal protuberance in the upper head of the os humeri.

The *ſyſtematic connexion* appears in Tab. IV. Φ &c. in the ſcapula. Then in Tab. III. v v &c. in the ſcapula; where it is partly covered by the coracobrachialis, with the ſhorter head of the biceps muſcle of the arm β &c. in the arm. Then in Tab. II. Λ Λ Π Ξ in the ſcapula; where it is likewiſe covered by the coracobrachialis with the ſhorter head of the biceps brachialis w in the arm; and it is alſo hid behind the ſerratus anticus υ φ, and the ſubclavius σ, in the breaſt. And what part of it appears naked in Tab. II. is in Tab. I. covered by the deltoides M &c. in the ſhoulder, and the reſt is hid behind the pectoralis ξ in the trunk.

FIGURE XVI.

The ſupraſpinatus, in its back part.

a The fleſhy part lodged in the cavity, that is above the ſpine of the ſcapula.

b b b Its firſt origin from the back part of the cavity, that is above the ſpine: from thence continuing to ariſe as far as the lunar notch, that is at the root of the coracoide proceſs.

c The tendinous end, inſerted at d into the tip of the larger unequal protuberance in the upper head of the os humeri.

Add here Fig. 17.

The

The *ſyſtematic connexion* appears in Tab. VI. ı in the ſcapula. In Tab. V. it is covered by the cucullaris B H H in the neck and back.

FIGURE XVII.

The ſupraſpinatus, in its fore part.

a The tendon in which it ends, inſerted at b into the tip of the larger unequal protuberance in the upper head of the os humeri.

c c The coracoide proceſs cut off.

Add here Fig. 16.

The *ſyſtematic connexion* appears in Tab. II. r s in the arm, where it lies partly under the juncture of the ſcapula with the clavicle in the top of the ſhoulder: the reſt of it lies behind the coracohyoideus, where that ariſes from the ſcapula, and is concealed behind the ſubclavius σ in the breaſt. And what appears naked of it in that table, is in Tab. I. ſeated under the deltoides M &c. in the ſhoulder.

THE

THE

Nineteenth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES MOVING THE CUBIT OR FORE-ARM.

FIGURE I.

The brachialis internus.

a b The bifurcated origination of it, from the os humeri, ſurrounding the lower part of the protuberances into which the deltoides is inſerted: below which protuberances, it likewiſe ariſes all the way from the whole extent or breadth of that bone, almoſt as low as the condyles, and along its fore part.

c c c The origin of the poſterior horn from the os humeri.

d The lower part of this muſcle, which lies near the ſupinator longus.

e The tendinous ſurface of its extremity.

f Its inſertion into the inner part of the upper head of the ulna.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. III. $\varkappa$ &c. in the arm, where it lies under the portion that joins the long flexor of the thumb, Φ in the cubit. Then in Tab. II. θ—$\varkappa$ in the arm, where the reſt lies under the biceps brachialis $\alpha\ \beta\ \gamma$, and under the ſublimis D in the cubit. Then in Tab. I. $\Lambda\ \Lambda\ \Lambda$ in the arm; where alſo it lies under the biceps brachialis Y Z Γ, the pronator teres Φ, and the ſupinator longus Π.

FIGURE II.

The brachialis internus, in its outer part.

a The firſt horn of its beginning. b b its origination from the bone of the humerus.

c c Its inferior and hollow part; on which lies the ſupinator longus.

Add here Fig. 1.

The

The *ſyſtematic connexion* appears in Tab. VII. ω A in the arm; where it in part lies under the longer radialis externus C C. Then in Tab. VI. P in the arm; where it is likewiſe covered by the longer radialis externus R, and alſo by the triceps brachialis ω F. Then in Tab. V. ψ in the humerus, in like manner covered by the triceps brachialis ξ ϱ, and by the longer radialis externus B in the fore-arm, alſo by the ſupinator longus ω.

Laterally it appears in Tab. IX. S in the left arm, and ζ in the right arm.

FIGURE III.

The biceps brachialis.

a b c The ſhorter head. a the origination of that head outwardly tendinous, ſpringing at b from the upper part of the end of the coracoide proceſs of the ſcapula. c its fleſhy belly.

d e f g The longer head. d e f the tendon by which it begins: ariſing at d from the ſame upper and outer edge of the ſinus in the ſcapula, into which the head of the os humeri is articulated; where alſo the tendon is continuous with the ligament that enlarges the rim of the ſaid ſinus ſcapulæ. From thence it runs down over the head of the os humeri d—e: and then thro' the groove or channel that is betwixt the two unequal protuberances at the head of that bone e—f, to form the fleſhy belly g.

h The common belly of this muſcle.

i The tendon, by which it is inſerted into the radius.

k The aponeuroſis, (which it ſends to the tendinous faſcia or covering of the cubit) cut off at l l.

Add here Fig. 4.

The *ſyſtematic connexion* of it appears in Tab. II. w—γ in the arm. Then in Tab. I. W—Γ in the arm; where at its beginning it lies under the pectorals ξ in the breaſt, and the deltoides M &c. in the arm; at its end, under the pronator teres of the radius, Φ in the right arm.

In its back part it appears in Tab. VI. O in the arm. Laterally in Tab. IX. P Q R in the left arm, and η θ ι in the right arm.

FIGURE IV.

The end of the tendon of the biceps, on the external part of the radius.

Becauſe the hand is here in a prone poſture, the end of the tendon which is ſmooth, appears bent forwards to the anterior part of the tubercle, that ſtands out from the radius below its neck.

a a Its inſertion into the back part of the ſaid tubercle, thro' its whole length.

Add here Fig. 3.

The *ſyſtematic connexion* of this part does not appear: but it follows after the ſupinator brevis Δ in the arm of Tab. VI.

FIGURE V.

The triceps brachialis, in its inner part.

a b The head which is called *extenſor-longus*. b the tendinous beginning.

c d The head called *brachialis externus*. d the tendinous beginning of its poſterior margin, which ariſes at e e from the poſterior edge of the os humeri, and then from the tendon f f.

f f g g h A certain tendon that ſtands out from the os humeri, along which it ariſes at g g, and is inſerted at h into the poſterior condyle of that bone.

i The tendon, which ariſing from the ſurface of the brachialis externus, belongs to the poſterior condyle of the humerus k, and is conjoined with the tendon f f.

l m The caput or *extenſor-brevis* as it is called: m the tendinous part of its beginning.

n The ſpace betwixt that head and the os humeri, thro' which a conſiderable nerve, artery, and vein, paſs along to the cubit.

Add here Fig. 6. and 7.

The *ſyſtematic connexion* appears in Tab. II. δ ε ζ η in the arm; where it in part lies hid behind the coracobrachialis u, and the biceps brachialis x z α: and the longus ε in its upper part goes under the teres major Σ in the ſcapula; the brevis δ is covered by the brachialis internus θ in the arm. Then in Tab. I. T V Δ Θ in the arm; where in the ſame manner it lies concealed behind the coracobrachialis R S, and the biceps brachialis W X Y: and the longus T goes under the teres major σ in the trunk; and the brevis V is covered by the brachialis internus Λ. But ſeparately, the part called brachialis externus Tab. III. θ ι in the arm; is there partly covered by the coracobrachialis ζ: Then in Tab. II. ζ η in the arm; and in Tab. I. Δ Θ in the arm; as we ſaid before.

FIGURE VI.

The triceps brachialis, in its outer part.

a b c c c d The *caput brevis* as it is called. b the tendinous part of it, ariſing at c c c from the outer part of the os humeri, at the root which ſuſtains the uppear head of that bone, thence deſcending in its origination, at firſt a little obliquely as far as the back part of the end of the deltoides, then according to the length of the bone by the back part of the anterior horn of the brachialis internus, and then behind the ſaid inner brachialis itſelf, to the anterior margin of the os humeri; and having left a ſpace (n Fig. 5.) at about the middle of the arm, it is then again continued on for ſome way in the direction of the ſaid margin. d the ſinuoſity impreſſed on this muſcle by the deltoides.

e f g h The *caput longus* of this muſcle. f the tendinous beginning, by which it ſprings from the bottom of the neck of the ſcapula at g, and from the extreme part of the margin that is beneath its neck. h a ſinuoſity impreſſed by the deltoides.

i The

i The head called *brachialis externus.*

k The common tendon of theſe three heads. In the outer part of which the caput brevis terminates here very ſuddenly and ſooner than uſual, cloſe by the caput longus: and the fleſhy fibres of the ſame join themſelves in a continued ſtraight courſe all the way to thoſe of the longus, and in their lower part externally to the tendinous portion l, that is formed by the longus.

m The tendinous portion, that is formed by the brachialis externus, and joins the common tendon.

But the manner in which the longus forms a broad tendon internally, towards the brevis, and how the fibres of the brevis join the ſame, as the fibres of the longus join the brevis outwardly, could not be expreſſed in the figure.

n The tendinous portion, which ariſing from the ſurface of the brachialis externus, belongs to the larger and interior condyle of the humerus.

p q The common tendon, inſerted chiefly into the outer part of the tip of the olecranum or elbow.

r The ſmaller point of the common tendon, inſerted at q ſ into the anterior part of the elbow, and the ridge that ſtands out from thence along the ulna.

Add here Fig. 5. and 7.

The *ſyſtematic connexion* appears in Tab. VI. ω—N in the arm; where the beginning of the longus D is covered by the teres minor τ in the ſcapula. Then in Tab. V. ξ—χ E in the arm; where the originations of the longus ο, and of the brevis ξ, are covered by the deltoides ζ, &c.

Laterally its connexion appears in Tab. IX. T—X in the left arm, and α—ε in the right arm.

FIGURE VII.

The lower head of the triceps brachialis, commonly called the brachialis externus, repreſented in its outer part.

That this may appear, the longus and brevis, with part of the common tendon belonging to the three heads are cut off; under which tendon it is ſeated in its outer part. Particularly the fleſh of the longus is cut off at a—b; that of the brevis with the common tendon from b—c; and the part of the brevis cut off is outwardly tendinous, inwardly fleſhy.

d e The brachialis externus, in which are impreſſed the marks of the longus at d, and of the brevis at e.

f f f Its origin from the outer part of the os humeri, taking its beginning firſt near the bottom of the place into which the teres major is inſerted, and from thence with its anterior ſide or edge it takes an oblique courſe to the anterior margin of the os humeri, and thence to the root of the anterior condyle of that bone; and from the outer part of that root at g thro' the whole extent or height of the ſame.

And from its origin it occupies the whole breadth of the bone, that is contained betwixt its anterior and poſterior margin e e f f Fig. 5.

h A part that is tendinous.

i The tendinous portion, ariſing from the ſurface of the brachialis externus, and belonging to the larger condyle of the humerus k.

l The tendon common to the triceps.

m The tendinous part, that is formed by the longus, and joined to the common tendon.

Here then appears the manner in which the fleſh of the outer brachialis joins partly with the fleſh of the brevis and longus, partly with the tendons of thoſe two, and in part with the interior common tendon.

n The tendinous part, which the external brachialis forms and joins to the common tendon.

o o The common tendon, inſerted into the outer part of the tip of the olecranum or elbow.

p Here the brachialis externus extends its fleſhy part with the common tendon to the elbow.

Add here Fig. 5. and 6.

The *ſyſtematic connexion* appears in Tab. VII. ξ—ψ in the arm.

FIGURE VIII.

The anconaeus.

a The tendon, by which it begins, and ariſes at b from the outer and lower part of the leſſer condyle of the humerus.

c c Its extremity, inſerted into the fore part of the elbow, juſt below the brachialis externus; alſo into the outer edge of the ulna below the ſaid part of the elbow.

The *ſyſtematic connexion* appears in Tab. VI. Y &c. in the arm. Then in Tab. V. F in the cubit or fore-arm; where it is partly covered by the tendon of the triceps brachialis χ, and the outer ulnaris W.

MUSCLES MOVING THE HAND.

Add here the *biceps brachialis* Fig. 3. and 4.

FIGURE IX.

The radialis internus carpi.

a The tendinous beginning, by which it ſprings at b from the end of the poſterior condyle of the os humeri.

But it is to be obſerved that the radialis internus, palmaris longus, ulnaris internus, and ſublimis, ariſe with one common tendinous head from the ſaid poſterior condyle of the humerus; with which head alſo the beginning of the pronator teres coheres: and that the ſaid head detaches a ſort of branches or partitions

partitions to which at their originations thoſe muſcles adhere, or the parts of which tendinous head belong to each of thoſe muſcles, in the manner repreſented in the ſhorter radialis externus Fig. 11. l. But we have here repreſented each of thoſe muſcles ſeparated from one another according to the courſe of their fibres, in the ſame manner with the laſt mentioned. The fore-mentioned muſcles likewiſe in part ariſe from, or rather cohere with, the tendinous covering of the cubit.

c The tendon, in which this muſcle ends, and which at d being increaſed in thickneſs, paſſes thro' the oblong ſinus that is ſeated on the inner part of the larger multangular bone, and is at laſt inſerted at e into the middle of the internal and upper part of the head of the firſt metacarpal bone that ſuſtains the index.

The manner in which the tendon enters the membranous canal, that is at the fore part of the ligament, which covers the tendons running from the cubit to the hand or the inner ſide of the wriſt, ſee in Tab. I. Ω W in the right hand. The channel itſelf ſee in Tab. II. p in the right hand, and in Tab. III. S in the right hand.

The *ſyſtematic connexion* appears in Tab. I. Ψ Ω in the arm; where at its origin it lies under the pronator teres Φ, and the palmaris longus α; then under the ſupinator longus Π: in the end the tendon paſſes into the middle of the palm.

Laterally its connexion appears in Tab. IX. μ in the right arm, and c d in the left arm.

FIGURE X.

The ulnaris internus, in its interior part.

a The tendinous beginning, ariſing at b from the greater condyle of the humerus, and cohering with the common tendinous head of the muſcles which ariſe from the ſaid condyle; from which head it is ſeparated in the manner mentioned in the radialis internus Fig. 9. Part of this common tendinous head runs a long way thro' the fore part of the muſcle at c.

d The origin of it from the elbow.

e e The thin and broad portion, that is a ſort of continuation of the ſaid origin d; and which here at f f goes off from the tendinous vagina or covering of the cubit g. Unleſs we ſhould rather ſay that this part ariſes tendinous from the ulna, together with the ſaid vagina, being ſtrictly conjoined with that into one.

h The tendon, in which it ends, inſerted at i into the prominent part of the piſiform bone of the wriſt, where that bone is moſt protuberant towards the palm. We have ſometimes ſeen this tendon, after inſerting itſelf into the piſiform bone, continue itſelf further on, to the crooked proceſs of the cuneiform bone of the carpus, and to be there inſerted.

Add here Fig. 11. a—h.

The *ſyſtematic connexion* appears in Tab. II. A A B in the arm; where it is in part covered by the ſublimis C D H, and beneath that, alſo under the profundus.

Then

Then in Tab. I. ν ξ ο in the arm; where it is alſo covered by the ſublimis ζ, &c.

k The ligament, that is extended from the piſiform bone of the wriſt l, to the inner and upper part of the ſuperior head of the fourth metacarpal bone of the hand at m.

FIGURE XI.

The ulnaris internus, and ſhorter radialis externus, externally.

a—k The *ulnaris internus.*

a Its beginning, ariſing at b from the lower and back part of the greater condyle of the humerus, and cohering with the common tendinous head of the muſcles, which ariſe from the ſaid condyle.

c The beginning of it from the poſterior edge of the olecranum, but little below the end of the tendon of the triceps brachialis.

d d The thin and broad portion, which is a ſort of continuation of the ſaid beginning c, and which in this part e e goes off from the tendinous vagina of the cubit; if it does not rather ariſe with a thin tendinous beginning i, conjoined into one with the ſaid vagina, from the ſpine of the ulna k k, and which continuation ſtands out from the back part of the olecranum. In the part f g it ariſes below from the ſame ſpina ulnæ.

h The tendon, inſerted into the piſiform bone.

Add here Fig. 10.

The *ſyſtematic connexion* appears in Tab. VI. l—q in the arm. Then in Tab. V. R—V in the cubit.

Laterally it appears in Tab. IX. π ρ σ in the right arm, and Y in the left arm.

l—r The ſhorter *radialis externus.*

l Its origin, from the anterior and leſs condyle of the humerus, with a tendinous head common to the extenſor digitorum communis, the extenſor auricularis proprius and the ulnaris externus. But theſe muſcles cohere ſo together in their origin, that they may be either ſaid to ſpring from the os humeri by a common tendon, that ſends out branches or partitions dividing them into ſo many portions, from which partitions their fibres alſo continue to ariſe, and by which they cohere together: or elſe thoſe partitions may be eſteemed as a tendinous excurſion of the beginning of any two of the muſcles betwixt which they are placed, and from which the fibres of each proceed. Altho' more properly a portion of the common tendinous origin, and of the partition, belongs to each apart; but the parts thereof ſo ſtrictly cohere and are conjoined one with the other, that they reſemble and may be accounted a tendinous origin common to them all, and branches or partitions common to each two next continuous muſcles. But here we have repreſented this radialis ſeparated according to the courſe of its fibres from the extenſor digitorum communis; becauſe whether we chuſe to ſay they have one common origin and partition, or refer the partition to one muſcle from whence the other may proceed, or rather aſcribe a part of the partition to each particular muſcle; in all theſe caſes the origin is ſtill from the anterior condyle of the humerus.

m The

m The tendinous beginning, ſeparated from the ſaid common head. The tendinous part runs along for a conſiderable way at n n; where a ſinus is impreſſed by the common extenſor of the fingers.

o The inner portion, which is tendinous.

p The tendon, in which it ends; inſerted chiefly at q into the anterior and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger; and likewiſe into the next adjacent upper head of the metacarpal bone of the index.

r The courſe of the tendon thro' the back part of the ſinus, which is the firſt or moſt anterior of thoſe in the outer or back part of the lower head of the radius: and it is retained or tied down by the outer armillary ligament of the carpus Tab. V. 16 in the right hand; and in Tab. IX. ζ in the left hand.

Add here Fig. 12.

The *ſyſtematic connexion* appears in Tab. VII. G H I in the cubit; it partly lies under the longer radialis externus B E, and the ſupinator brevis K. Then in Tab. VI. V W X in the arm; where it alſo lies under the longer radialis externus Q T, and the ſupinator brevis Δ, with the long abductor of the thumb Λ, the leſs extenſor of it Ψ, and the larger extenſor a c, with the indicator f h. Then in Tab. V. H I I I in the cubit; placed alſo under the longer radialis externus A D, the long abductor of the thumb 21, the leſs extenſor of it 24, and the larger 13; and alſo under the common extenſor of the fingers d r.

Laterally its connexion appears in Tab. IX. l m m m in the left arm.

FIGURE XII.

The ſhorter radialis externus, in its fore part.

a The tendinous beginning.

b The tendon, in which it ends; inſerted chiefly at c into the upper and outer part of the root of the upper head of the metacarpal bone, that belongs to the middle finger; alſo into the next adjacent upper head of the metacarpal bone of the index.

d Its courſe thro' the poſterior part of the ſinus, which is the moſt anterior of thoſe in the outer or back part of the lower head of the radius: and it is there tied down by the outer armillary ligament e in the left arm of Tab. I.

Add here Fig. 11. l &c.

The *ſyſtematic connexion* appears in Tab. III. φ φ χ χ ψ in the left fore-arm, and φ χ in the right; where it in part lies under the longer radialis externus σ — τ in the left, and π ϱ in the right cubit or fore-arm. Then in Tab. II. σ σ ς ς ς in the left cubit, and σ ς in the right; where in like manner it lies under the the longer radialis externus ν ξ ο in the left, and λ μ in the right fore-arm; alſo under the long abductor of the thumb Z, the leſs extenſor e, and the larger extenſor g, with the indicator Ψ in the left hand. Then in Tab. I. k k l l l in the left arm, placed likewiſe under the longer radialis externus f g i, the long abductor of the thumb φ, with the leſs extenſor of it c, and the larger y in the hand; alſo under the tendon of the common extenſor of the fingers, belonging to the index o, and that to the ſupinator longus Π Σ in the arm.

FIGURE

FIGURE XIII.

The longer radialis externus, in its outer or back part.

a a Its origin from the anterior edge of the os humeri, and continued along at b from the anterior or leſs condyle of that bone.

c The place where it joins and has a common origin with the extenſor digitorum communis of the hand, and with the ulnaris externus. See Tab. V. C in the cubit or fore-arm.

d The tendinous part of its beginning.

e The tendon, in which it ends; inſerted at f into the outer and fore part of the root of the upper head of the metacarpal bone of the index.

æ The courſe of the tendon thro' the fore part of the ſecond ſinus, that is the moſt anterior of thoſe in the back part of the lower head of the radius: and it is tied down or confined by the outer armillary ligament 16 in the right hand of Tab. V. and which in Tab. IX. is marked ζ in the left hand.

g The interior part of this muſcle.

Add here Fig. 14.

The *ſyſtematic connexion* appears in Tab. VII. B—F in the cubit; where its fore part is covered by the ſhorter radialis externus G H. Then in Tab. VI. Q—U in the arm; where at its origin it lies under the triceps brachialis L: but its tendon under the long abductor of the thumb Λ, the leſs extenſor of it Ψ, and the larger a c: alſo its fore part is covered by the ſhorter radialis externus V. Then in Tab. V. A—D in the cubit; where in like manner it lies under the triceps brachialis, ϱ in the arm, the long abductor of the thumb 21 in the cubit, its leſs extenſor 24, and the larger 13, with the ſhorter radialis externus H, and the ſupinator longus ω.

Laterally its connexion appears in Tab. IX. g h i i i k in the left arm.

FIGURE XIV.

The longer radialis externus, in its fore part.

a The tendinous beginning.

b. c The diviſion of it into two parts, of which b is the principal.

d The tendon, in which the chief portion ends; and which is larger than the other.

e The tendon in which the leſs portion ends; and which conjoins itſelf with the other tendon d, and forms therewith,

f The common tendon, inſerted at g into the outer and fore part of the root of the upper head of the metacarpal bone that ſuſtains the index.

h The courſe of the tendon thro' the fore part of the ſecond ſinus, which is the moſt anterior of thoſe in the back part of the lower head of the radius: and it is tied down by the outer armillary ligament, Tab. I. e in the left wriſt.

Add here Fig. 13.

The

The *ſyſtematic connexion* appears in Tab. III. σ—υ in the left cubit, and π ϱ in the right cubit; where at its origination it lies behind the brachialis internus ξ. Then in Tab. II. γ—ϱ in the left cubit, and λ μ in the right cubit; where, as before, it lies behind the brachialis internus ι, and is alſo covered by the long abductor of the thumb Z, (and a b d in the right cubit) with the leſs extenſor of the thumb e, and the larger extenſor g. Then in Tab. I. f g h i in the left arm, and g h in the right; there likewiſe ſeated under the long abductor of the thumb φ (χ b in the right arm) the leſs extenſor c, and the larger extenſor y, in the left hand, and alſo under the long ſupinator Π in the arm.

FIGURE XV.

The ulnaris externus.

a The tendinous beginning ariſing at b from the outer part of the anterior condyle of the os humeri; where it is ſeparated from the origin of the common extenſor of the fingers, and proper extenſor of the little finger, as alſo from the common head of the ſhorter radialis externus, Fig. XI. See it conjoined in Tab. V. X in the cubit.

Alſo a pretty broad and thin portion is ſent off by this tendinous origin, from below the end of the anconæus, at the outer part of the anterior edge in the middle of the ulna, to this muſcle.

c Part of the tendinous vagina or covering ſeated next under the common integuments, and binding together the muſcles that lie on the outer part of the cubit; ariſing together with the tendinous beginning a from the condyle b. From the inner ſide of this portion the ulnaris externus ariſes, and conjoins the beginnings of its fibres therewith.

d d The place where the vagina is cut off a little below the origin of the ulnaris from it.

e The tendon in which it ends. f the courſe of it thro' the anterior and outer ſinus or groove in the lower end of the ulna; where it is retained or tied down by a ligament 14. 15. 17 in the right hand of Tab. V. and in the left hand γ α, and in Tab. IX. ζ in the left hand.

g Its inſertion into the upper part of the eminence that is in the back part of the upper head of the fourth metacarpal bone of the hand.

The *ſyſtematic connexion* of it appears in Tab. V. W—Z in the cubit; where at its end it goes a little way under the abductor of the little finger β in the right hand.

Laterally its connexion appears in Tab. IX. n o in the left arm, and τ in the right.

FIGURE XVI.

The ſupinator longus.

a b The tendinous beginning which has here a diviſion, and ariſes at c d d from the lower part of the anterior edge of the os humeri, juſt above the origin of the longer radialis externus.

a b e The ſinuoſity that is impreſſed by the brachialis internus.

f The tendon in which it ends, and is inſerted at g into the fore part of the lower head of the radius, at the beginning of that ſinus thro' which the tendons of the long abductor, and leſs extenſor of the thumb, paſs from the cubit to the hand.

The *ſyſtematic connexion* appears in Tab. I. Π Σ in the arm, where at its beginning it lies under the brachialis internus Λ, and towards its inſertion under the long abductor of the thumb χ b, and the leſs extenſor c.

Poſteriorly its connexion appears in Tab. V. ω in the cubit or fore-arm; where at its origin it is covered by the triceps brachialis ξ ϱ in the arm, and then by the longer radialis externus, A in the cubit.

Laterally its connexion appears in Tab. IX. Z a in the left arm, and ϰ in the right.

FIGURE XVII.

The ſupinator brevis in its outer part.

a The tendon, ariſing at b from the lower part of the end of the anterior condyle of the os humeri.

c c The part that is outwardly tendinous, ariſing all the way tendinous at d e from the outer part of the capſular ligament, that inveſteth the juncture of the radius with the humerus and ulna, from which ligament it is cut off; e f its origin from the fore part below the ſinus of the ulna, by which its head is articulated with the radius, from whence it is continued for ſome way downwards.

g Its extremity inſerted into the radius.

Add here Fig. 18.

The *ſyſtematic connexion* appears in Tab. VIII. Θ, &c. in the arm. Then in Tab. VII. K, &c. in the cubit; where it is partly covered by the ſhorter radialis externus G. Then in Tab. VI. Δ in the arm, where it is partly covered by the ſaid radialis externus V, and in part by the anconæus Y: and what is there naked, in Tab. V. lies under the ulnaris externus W, the common extenſor of the fingers d, and the proper extenſor of the little finger a b, in the cubit.

FIGURE XVIII.

The ſupinator brevis in its interior part.

a The tendon by which it begins.

b The place where it inſerts itſelf near the upper eminence of the radius, into which the biceps brachialis is inſerted. It is alſo inſerted at c c c round the margin of the tubercle that is next above the ſaid eminence; from the upper part of it forward and downward. After this it is continued obliquely forward along the inner part of the radius almoſt to the middle of its length; and from thence outward, on the back of the cubit: add here Fig. 17.

e The

e The back part of this muſcle is ſeen betwixt the radius and ulna.

Add here Fig. 17.

The *ſyſtematic connexion* appears in Tab. IV. b—f in the cubit. Then in Tab. III. ω—Θ in the cubit, where it is in part covered by the brachialis internus ξ ο, by the longer radialis externus π (and σ in the left arm) and by the ſhorter ditto φ, the pronator teres Λ, the long flexor of the thumb Π Σ, and the profundus C. Then in Tab. II. τ—φ in the cubit; covered likewiſe, as in Tab. III. by the brachialis internus ι κ, the longer radialis externus λ (and υ in the left arm) the ſhorter ditto σ, the pronator teres ψ, and the profundus χ; and moreover by the tendon of the biceps brachialis γ, and the ſublimis G. Then in Tab. I. Ξ in the arm; covered by the tendon of the biceps brachialis Γ, the brachialis internus Λ, the ſupinator longus Π, and the pronator teres Φ.

FIGURE XIX.

The pronator teres, in its inner part.

a a Its origination from the inner and upper part of the poſterior condyle of the os humeri.

b The part that is outwardly tendinous.

c The tendon in which it ends.

Add here Fig. 20.

The *ſyſtematic connexion* appears in Tab. I. Φ in the arm; where its end goes under the ſupinator longus Π. Then in Tab. II. where its extremity ψ in the cubit goes under the ſhorter radialis externus σ ς. So in Tab. III. the extremity of it Λ in the cubit goes under the ſame radialis φ χ.

Laterally its connexion appears in Tab. IX. λ in the right, and b in the left.

FIGURE XX.

The extremity of the pronator teres, in its outer part.

a The tendinous end, inſerted at b b into the unequal ſurface that is formed for that purpoſe in the gibbous part of the radius.

Add here Fig. 19.

The *ſyſtematic connexion* appears in Tab. VI. lying under the ſhorter radialis externus V, and the long abductor of the thumb Λ, in the arm.

FIGURE XXI.

The pronator quadratus in its inner part.

a a The tendinous ſurface.

b b Its origin, from the oblong eminence in the inner and back part of the ulna, not much above the lower head of that bone.

c c Its inſertion into the lower part of the radius, as well into the flat interior ſurface of it, as into the ſide that is next the ulna, and which cannot be ſeen in the figure.

Add here Fig. 22.

The *ſyſtematic connexion* appears in Tab. IV. g—k in the cubit. Then in Tab. II. Ξ Ξ in the cubit; where the greater part is covered by the long flexor of the thumb Π Σ, and the profundus E F G. Then in Tab. II. Y in the cubit; covered as before by the long flexor of the thumb S T, alſo by the long abductor of the thumb a b d, and ulnaris internus A B. Then likewiſe in Tab. I. τ in the arm; where it is covered by the long flexor of the thumb π, and by its long abductor χ ω b, and ulnaris internus ν.

Poſteriorly its connexion appears in Tab. VIII. Φ in the right arm. Then in Tab. VII. P in the right cubit. But in Tab. VI. it lies under the indicator f h, the larger extenſor of the thumb a c, and the leſs extenſor of ditto, Ψ with the long abductor Λ in the arm.

Add to theſe Tab. VIII. Φ in the left arm. Then Tab. VII. P in the left cubit, where it is in part covered by the profundus S T, &c. Then in Tab. VI. r in the left arm; where it is covered by the ulnaris internus l q. So likewiſe in Tab. V. ε in the extremity of the left cubit; where it is alſo covered by the ulnaris internus R V.

FIGURE XXII.

The pronator quadratus laterally.

a a Its tendinous ſurface.

b b Its origination from the oblong eminence in the inner and back part of the ulna, not much above its lower head.

Add here Fig. 21.

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Twentieth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE FINGERS.

FIGURE I.

The common extenſor of the fingers, with the proper extenſor of the little finger.

a—z The *extenſor communis digitorum manus.*

b The tendinous beginning, ariſing at c from the end of the anterior condyle of the os humeri. But it is a part of the common tendinous head of which we ſpoke in deſcribing the ſhorter radialis externus l Fig. 11. Tab. XIX. And as there the ſaid radialis is ſeparated according to the courſe of its fibres from this extenſor; ſo this extenſor, with the proper extenſor of the little finger, is on one ſide ſeparated in like manner from the ſaid radialis, and on the other ſide from the ulnaris externus.

d Part of the tendinous vagina or caſe, that binds together the muſcles that lie on the outer part of the cubit, immediately after the common integuments; and ſpringing with a tendinous origin b from the condyle c. But this part of the ſaid vagina or caſe, is that from under which the preſent common extenſor of the fingers ariſes, or with which the beginnings of its fibres are conjoined.

e e The edge from whence the reſt of the ſaid tendinous ſwath or vagina is cut off, where the fibres of the muſcle no longer ariſe from it.

f The portion belonging to the index. g the tendon, in which it ends; and which is afterwards conjoined with the tendon of the indicator V, whence is formed the common tendon h.

i The tendon belonging to the middle finger; and in which tendon is formed the ſlit k, as it deſcends over the back of the hand. The fleſhy portion that forms this tendon, lies under the two other portions f. l.

l The

l The portion belonging to the ring finger. m the tendon, in which it ends; and which in its descent over the back of the hand has the slit n. o the branch of it that joins the tendon of the middle finger, and is not always to be found. p the branch of the same tendon that afterwards divides into two, one of which q joins the tendon ε of the little finger, but is not constantly found: the other r, again divides into two, and sends one portion s to join the tendon of the little finger ε ζ, or rather to the tendon q, that is conjoined with the tendon belonging to the little finger.

v The tendinous portion, by which the trunk of the tendon m n belonging to the ring finger, is conjoined with the tendon ε ζ of the little finger, near its beginning; which portion is formed of the two parts s and u, going off from the aponeurosis w, of the tendon m n conjoined together below into one.

x The tendinous portion, by which the trunk of the tendon m n belonging to the ring finger, is conjoined with the tendon i of the middle finger. And this portion is formed of the tendon o conjoined with the aponeurosis y, that goes off from the trunk of the tendon m n of the ring finger, near the root of the said finger.

z The aponeurosis, which arising from the tendon i of the middle finger, goes to the tendon g of the index, and conjoins together near the roots of the fingers.

This figure shews the manner in which the tendons pass thro' the 3d sinus in the lower head of the radius, and which is the most posterior of those in the outer side of the wrist: but for the manner in which they are tied down therein by the outer armillary ligament, see Tab. V. 16 in the right hand; and Tab. I. e in the left arm; also Tab. IX. ζ in the left hand.

The *systematic connexion* appears in Tab. V. d &c. in the cubit. Also in Tab. I. m n o p q in the left arm. And in Tab. IX. p q r s t in the left arm and hand.

α—ζ *The extensor proper to the little finger.*

β Its beginning, conjoined with the beginning of the common extensor of the fingers.

γ Part of the tendinous swath of the cubit before-mentioned at d. From beneath which the fibres of this muscle arise.

δ δ The edge from whence the rest of the swath is cut off, where the fibres no longer proceed from it.

ε The tendon, in which it ends; having a small slit at ζ in its descent over the back of the hand.

For the manner in which it is retained by the outer armillary ligament, see Tab. V. 16 in the right hand; and in Tab. I. e in the left arm; and in Tab. IX. ζ in the left hand.

The *systematic connexion* appears in Tab. V. a &c. in the cubit.

Also in Tab. I. r s in the left arm. And in Tab. VII. 5 in the left hand. Also in Tab. IX. v w in the left arm and hand; and in the right hand.

η. θ. ι. κ The extensor tendons, conjoined on the backs of the fingers with the aponeuroses and tendons of the musculi interossei, lumbricales, &c. of which η, belonging to the little finger, is formed by the tendon ε of the proper extensor

extenſor of the little finger, conjoined with the portions q s u w from the common extenſor. θ that of the ring finger, and ι that of the middle finger, are from the common extenſor. κ that of the index is formed by the tendon of the indicator V, conjoined with the tendon g from the common extenſor.

λ. λ. λ. λ The ends of thoſe tendons, inſerted each of them at μ into the tranſverſe oblong protuberance, in the outer part of the upper head of each bone of the ſecond phalanx or order.

ν. ξ The conjunction of the tendon of the index with the tendon of the firſt lumbricalis ν: and with the tendon ξ of the poſterior interoſſeus of the index.

ο. π The conjunction of the tendon of the middle finger with the tendon ο, that is common to the anterior interoſſeus of the middle finger and 2d lumbricalis: and with the tendon of the poſterior interoſſeus of the middle finger.

ρ. σ The conjunction of the tendon of the ring finger with the tendon ρ, that is common to the anterior interoſſeus and 3d lumbricalis of the ring finger.

τ. υ The conjunction of the tendon of the little finger with the tendon τ, that is common to the anterior interoſſeus and fourth lumbricalis of the little finger: and with the tendon υ that is common to the abductor and ſmall flexor of the little finger.

φ The tendon of the firſt lumbricalis here cut off: which tendon conjoins itſelf with the tendon of the index ν, and being increaſed by a portion received from thence, runs to the third bone χ. Add here q r r s t Fig. 3.

ψ The tendon of the poſterior interoſſeus of the index, here cut off; which tendon conjoins itſelf with the tendon ξ of the index, and being increaſed by a portion received from thence, it runs to the third bone ω. See t &c. Fig. 6.

A The common end, in which the tendons χ. ω conjoin themſelves, inſerted at B into the middle protuberance in the outer part of the upper head of the third bone.

C The tendon common to the anterior interoſſeus and ſecond lumbricalis of the middle finger, here cut off; which tendon conjoins itſelf at ο with the tendon of the middle finger, and being increaſed by a portion received from thence, it runs to the third bone D. Add here v &c. Fig. 9.

E The poſterior interoſſeus of the middle finger, here cut off; which tendon conjoins itſelf with the tendon π of the middle finger, and being increaſed by a portion received from thence, it runs to the third bone F. Add here m &c. Fig. 9.

G The common end, in which the tendons D and F conjoin themſelves, inſerted at H into the middle protuberance in the outer part of the upper head of the third bone.

I The tendon common to the anterior interoſſeus and third lumbricalis of the ring finger, here cut off; which tendon conjoins itſelf with the tendon ρ of the ring finger, and being increaſed by a portion received from thence, it runs to the third bone K. Add here k &c. Fig. 6.

L The tendon of the poſterior interoſſeus of the ring finger, here cut off; which tendon conjoins itſelf with the tendon σ of the ring finger, and being increaſed

increaſed by a portion received from thence, it runs to the third bone M. Add here a &c. Fig. 9.

N The common end, in which the tendons K M conjoin themſelves, inſerted at O into the middle protuberance in the outer part of the upper head of the third bone.

P The tendon common to the anterior interoſſeus and fourth lumbricalis of the little finger, here cut off; which tendon conjoins itſelf with the tendon τ of the little finger, and being increaſed by a portion received from thence, it runs to the third bone Q. Add here a &c. Fig. 6.

R The tendon common to the abductor and ſhort flexor of the little finger, here cut off; which tendon conjoins itſelf with the tendon υ of the little finger, and being increaſed by a portion received from thence, it runs to the third bone S. See Fig. 10. and 11.

T The common end, in which the tendons Q S conjoin themſelves, inſerted at U into the middle protuberance in the outer part of the upper head of the third bone.

The *ſyſtematic connexion* appears in Tab. V. y z γ δ ε η θ ι κ. x z ν ξ ο ρ σ τ υ. w z ψ ω Γ Ξ Π Σ Φ. v z 2, 3, 4, 7, 8, 9, 10 in the right hand. Alſo in Tab. VI. α ε η θ ι λ μ ν ξ. β ε σ ς τ υ φ χ ψ. γ ε c f g l m n o. δ ε r s t v w x y in the right hand. Likewiſe in Tab. VII. b f g h i k n o p q. c f u v w z α β γ. d f η θ ι ν ξ ο π. e f ς τ φ χ ψ ω in the right hand.

See alſo Tab. I. K L I M N O. P R P. Q in the left hand. And in Tab. II. 8, 9, 11, 12, 13, 14. 6, 15. 6, 3 in the left hand. In Tab. III. m n r s t u. v y x. w. x in the left hand. Then in Tab. V. ψ ω Γ. Δ. Δ in the left hand. Alſo in Tab. VI. λ μ ν. ξ ξ in the left hand. Then in Tab. VII. 5, 6, 7, 8. 9. 10 in the left hand. Alſo in Tab. VIII. q r. p in the left hand. Then in Tab. IX. ς τ υ φ χ. ψ. ω in the left hand, and in the right hand.

Concerning the aponeuroſes, which join the extenſor-tendons from the interoſſei, lumbricales, &c. ſee thoſe muſcles.

V The tendon of the indicator cut off. See Fig. 12. d.

FIGURE II.

The profundus, in its outer part.

a a Its origination from the back part of the ulna, beginning below the root of the olecranum or elbow.

Add here Fig. 3.

The *ſyſtematic connexion* appears in Tab. VII. R S S in the right cubit. Then in Tab. VI. i k k in the right arm; where it is partly covered by the ulnaris internus l. Then in Tab. V. K in the right cubit; where it is alſo in part covered by the ulnaris internus R, and is likewiſe hid behind the ulnaris externus W.

FIGURE

FIGURE III.

The profundus, in its inner part, with the lumbricales.

a—p The *profundus flexor* of the fingers.

b b b Its origin from the ulna, below the unequal ſurface into which the brachialis internus is fixed. Below which alſo its origin occupies more than half the upper part of the inner ſide of the ulna; ariſing alſo from the adjacent part of the ligament that is placed betwixt the radius and ulna. And its origination is here figured ſeparated from its coheſion with the ſublimis and ulnaris internus.

c Part of the tendinous beginning.

d. e. f Three tendons ariſing from the fleſh. The firſt of which d goes into the tendon g h of the index. The ſecond e ends in the tendon i k of the middle finger. The third f divides into two, one of which l m goes to the ring finger, the other n o to the little finger. As thoſe tendons run along the palm and fingers, they are in a manner ſplit longitudinally, and appear as if formed of two conjoined together h. k. m. o: at laſt they are inſerted at p. p. p. p into rough ſurfaces, that are in the inner ſides of the bones of the third phalanx or order, at the root of the upper head of each of them.

g. i. l. n The paſſage of the tendons thro' the inner carpal ſinus, and under the inner carpal ligament; for which ſee Tab. III. N in the right hand.

The vaginæ or ſheaths by which theſe tendons, and thoſe of the ſublimis, are covered as they paſs along the joints of the fingers with the metacarpus, ſee in Tab. I. 4 4 4 &c. in the right hand. Alſo the ligamentary ſheath, by which theſe and the tendons of the ſublimis are tied down at the joints of the bones of the firſt phalanx, may be ſeen at 3, &c. in the right hand of the ſame Table; in which alſo may be ſeen thoſe at 5, &c. in the ſame hand, that cover the tendons as they paſs over the bones of the ſecond phalanx.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. III. C C &c. in the cubit; where part of it lies under the long flexor of thumb Π Φ, and the tendons K L lie partly under the abductor of the fourth metacarpal bone of the hand U, and all of them H. I. K. L under the lumbricales c. g. k. n. Then in Tab. II. χ χ R ı ı ϰ, &c. in the cubit and right hand (χ in the left cubit, and hand for the tendons); where it lies under the ſublimis C &c. in the cubit, and the tendons of the ſublimis L. I. N. P; the tendon belonging to the little finger, alſo lies under the abductor of the fourth metacarpal bone χ in the hand, and the ſmall flexor of the little finger τ. Then in Tab. I. σ in the arm, and y z, &c. in the right hand (V, &c. in the left hand) where the reſt of it lies under the ſublimis ζ ζ, &c. in the arm, and the pronator teres Φ; its tendons lie under the aponeuroſis of the palmaris longus γ, with the tendons of the ſublimis x, &c. in the hand.

Then again in Tab. VII. R—W in the left cubit and hand. Alſo in Tab. VI. j the left arm, and o. o in the hand. Alſo in Tab. V. K in the left cubit,

and Ξ Π Σ, &c. in the hand. And laterally in Tab. IX. in the fingers of the left hand.

q—t The *firſt lumbricalis*; r r its origination, the thicker portion of thoſe two parts into which the tendon of the profundus belonging to the index, is in a manner ſplit longitudinally. And it ariſes from that ſide of the tendon, that is over-againſt the aponeuroſis of the palmaris longus.

s The tendon, that joins the common tendon of the extenſor of the index, and then ends in the third bone of the index.

t The aponeuroſis, that it joins with the aponeuroſis of the abductor indicis, and together with that joins the common tendon of the extenſor indicis.

Add here Fig. 1. φ &c. and Fig. 6. β.

u—y The *ſecond lumbricalis*; its moſt conſiderable part w ariſing from the thicker portion of thoſe two into which the tendon of the profundus belonging to the middle finger, is in a manner ſplit longitudinally; and from that ſide of the tendon that is oppoſed to the aponeuroſis of the palmaris longus: then again by a leſs conſiderable and ſlenderer portion w, it ariſes from the tendon belonging to the index; and principally from that part of the ſaid tendon, which is next the bottom of the palm.

x The tendon of it, that is afterwards conjoined with the tendon of the anterior interoſſeus of the middle finger, and with that forms the common tendon y conjoining itſelf with the tendon of the extenſor communis, and ending in the third bone of the middle finger.

Add here Fig. 8. e, and Fig. 1. C.

z—δ The *third lumbricalis*; ariſing like the ſecond with its moſt conſiderable part α α from the thicker of thoſe portions, in which the tendon of the profundus belonging to the ring finger, is in a manner ſplit longitudinally; and its leſs conſiderable part β, from the tendon belonging to the middle finger, but from the ſlenderer portion thereof.

γ Its tendon, which being conjoined with the tendon of the anterior interoſſeus of the ring finger, therewith forms the common tendon δ, conjoining itſelf with the tendon of the extenſor communis, and belonging to the third bone of the ring finger.

Add here Fig. 7. l, and Fig. 1. I.

ε—ι The *fourth lumbricalis*; ariſing like the ſecond with its more conſiderable part ζ ζ from the thicker of thoſe portions, into which the tendon of the profundus belonging to the little finger, is in a manner ſplit longitudinally; and its leſs conſiderable part η ariſes from the ſlenderer portion of the tendon belonging to the ring finger.

θ Its tendon, which being afterwards conjoined with the tendon of the anterior interoſſeus of the little finger, forms therewith the common tendon ι, that joins the tendon of the extenſor of the little finger, and ends in the third bone of the ſaid finger.

Add here Fig. 7. q, and Fig. 1. P.

The *ſyſtematic connexion* appears in Tab. III. c f e. g w. k s. n p in the right hand; where the fourth in part lies under the abductor of the fourth metacarpal bone of the hand U: but at its origin it lies hid behind the inner annular ligament of the wriſt N. Then in Tab. II. γ ε. ζ ν. η π. θ ς in the right hand; where

where it is partly covered by the tendons of the ſublimis P. N. I. L; the firſt being hid by the ſecond ſhort abductor of the thumb u, the fourth by the ſhort flexor of the little finger τ: and they are alſo hid behind the inner annular ligament of the wriſt l. Then in Tab. I. Ω w. l u. k s. i q in the right hand; where the greateſt part of it is covered by the aponeuroſis of the palmaris longus γ; and the firſt is alſo covered by the ſecond ſhort abductor of the thumb A. Add here Tab. IV. α β. η θ ξ ο in the right hand.

Moreover in Tab. III. o p q in the left hand. In Tab. II. 11. 10 in the left hand. In Tab. I. I H in the left hand. In Tab. VII. φ 1 in the right hand. In Tab. VI. v 1 in the right hand. In Tab. V. 7. 6 in the right hand. In Tab. VII. 1. 2. 3. 4 in the left hand. In Tab. VI. β. γ. δ. ε in the left hand. In Tab. V. ο in the left hand. In Tab. IX. ρ τ σ in the left hand.

FIGURE IV.

The ſublimis.

a The tendinous beginning, ariſing at b from the inner part of the greater condyle of the humerus. But it is ſeparated from the common tendinous head, by which it ariſes with the other muſcles from that condyle, in the manner we deſcribed in ſpeaking of the radialis internus at a Fig. 9. Tab. XIX.

c The portion ariſing with a ſmall tendon c from the fore part of the eminence of the ulna, into which the brachialis internus is inſerted, near the end of the ſaid brachialis.

e The broad and thin head from the radius.

f The tendinous part of the origin from the radius.

g g The origin of this head from the radius, from the inner ſide nearly of its middle, beginning the near end of the ſupinator brevis and pronator teres; and from thence alſo continuing to ariſe at g h.

i The portion belonging to the index. k the tendon in which it ends.

l The portion belonging to the middle finger. m the tendon in which it ends.

n The portion belonging to the ring finger. o the tendon in which it ends.

p The portion belonging to the little finger. q the tendon in which it ends.

k m o q The paſſage of the tendons thro' the inner concave part of the wriſt, under the inner ligament of the wriſt; for which ſee l in the right hand of Tab. II.

r The tendon ſplit in a manner longitudinually; which is alſo in the reſt.

s. t The two horns, into which the tendon ſplits itſelf; inſerted at u. v into the inner part of the edge in the middle of the bone of the ſecond phalanx; the one into the anterior, the other into the poſterior edge. The reſt are inſerted after the ſame manner with this.

w The thin portion, by which thoſe horns coheré together under the tendon of the profundus. The ſame alſo takes place in the other fingers as in this.

The ligamentary ſheaths by which theſe, with the tendons of the profundus are tied down as they paſs over the bones of the firſt phalanx, may be ſeen in Tab. I. 3. &c. in the right hand. As alſo the ſheaths that cover them at the joints of the fingers with the metacarpus, there marked 4. 4 4. &c. with thoſe which their extreme horns paſs under, at 5. &c.

Add here Fig. 5.

The *ſyſtematic connexion* appears in Tab. II. C—Q in the cubit; where part of it is covered by the pronator teres ψ; the tendons I and L in the hand lie partly under the ſmall flexor of the little finger τ; the tendon P, under the ſecond abductor of the thumb u: and all of them at their extremities under the tendons of the profundus ι. ι. ι. ι. Then in Tab. I. ζ—μ in the arm; where it in part lies under the palmaris longus α β, partly under the radialis internus Ψ Ω, in part under the ſupinator longus Π Σ, and pronator teres Φ: alſo in the right hand its tendons appear at x 2. 2. &c. where a great part of them are covered by the aponeuroſis of the palmaris longus γ, and at their extremities they lie partly under the tendons of the profundus y. &c.

Moreover in Tab VI. s—α in the arm; where in the cubit it in part lies behind the ulnaris internus l, and the profundus i. And in Tab. V. M—Q in the cubit, placed alſo under the ſame muſcles; and moreover the tendons Ξ Π &c. appear in the left hand. Laterally in Tab. IX. e e in the left arm, and the tendons in the hand: and in the right arm o. Alſo in Tab. II. the tendons appear in the fingers of the left hand. Alſo in Tab. I. S &c. in the left hand.

FIGURE V.

The ſublimis.

a The ligament, that goes from the lower part of the poſterior condyle of the humerus, to the back part of the upper head of the ulna, near the bottom of its lunar ſinus.

b c c Part of the ſublimis cut off, where it ariſes from the condyle b, and c c that from the ligament a, and from the upper and back part of the rough edge or ridge of the ulna, into which the brachialis internus is inſerted.

Add here Fig. 4.

FIGURE VI.

The inner interoſſei of the hand, viewed in their outer ſurface.

a The *interoſſeus of the little finger*, ariſing at b b from that ſide of the metacarpal bone of the ſaid finger, that lies next the metacarpal bone of the ring finger, and particularly from more than its upper half, juſt below the root of its upper head; except that part of its breadth that is near the back of the hand, and from whence the ſmaller head of the poſterior interoſſeus of the ring finger ariſes at a Fig. 9.

c Its tendon, which having received a part from the inner ſide of the tendon of the fourth lumbricalis, conjoins itſelf with the tendon of the proper extenſor of the little finger, and being increaſed by a portion received from thence, runs to the third bone of the little finger e.

f g The aponeuroſis, that joins the tendon of the extenſor; and is produced in its lower part f from the tendon c; in its upper part g coming from the capſular ligament of the joint of this finger with its metacarpal bone.

Add here Fig. 1. P &c. and Fig. 7. n &c.

The *ſyſtematic connexion* appears in Tab. VII. m n o p r in the right hand; where it is partly covered by the poſterior interoſſeus of the ring finger s. Then in Tab. VI. λ in the right hand, where almoſt the whole of it lies behind the poſterior annularis π ϱ. The like appears in Tab. V. η ζ in the right hand.

h The tendon of the proper extenſor of the little finger. i the tendon common to the abductor and ſmall flexor of the little finger. See Fig. 1. η R &c.

k The *anterior interoſſeus of the ring finger*, ariſing at l l from that ſide of the metacarpal bone of the ſaid finger, that lies next the metacarpal bone of the middle finger, and particularly from more than its upper half, below the root of its upper head; except that part of its breadth which is next the back of the hand, and from whence the ſmaller head of the poſterior interoſſeus of the middle finger ariſes, m Fig. 9.

m Its tendon, which having received on its inner ſide the tendon of the third lumbricalis, conjoins itſelf with the tendon of the common extenſor belonging to this finger, and being increaſed by a portion received from thence, runs to the third bone o of the ſaid finger.

p q The aponeuroſis, that joins the tendon of the extenſor; produced in its lower part p from the tendon m; and ſpringing in its upper part from the capſule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. I &c. and Fig. 7. h &c.

The *ſyſtematic connexion* appears in Tab. VII. y z α β δ in the right hand; where it is partly covered by the poſterior interoſſeus of the middle finger ε. Then in Tab. VI. υ in the right hand; where almoſt the whole lies under the poſterior interoſſeus of the middle finger a b. The like appears in Tab. V. ϱ π in the right hand.

r The tendon of the common extenſor belonging to this finger. s the tendon of the poſterior interoſſeus of the ring finger. See Fig. 1. θ. L. &c.

t The *poſterior interoſſeus of the index*, ariſing at u u from that ſide of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half its length, juſt below the root of the upper head of that bone; except the margin of that ſide which is next the back of the hand, from whence ariſes the ſmaller head of the anterior interoſſeus of the middle finger, x Fig. 9.

v Its tendon, that conjoins itſelf with the tendon of the extenſor of the index, and being increaſed by a portion received from thence, runs to the third bone x of the index.

y z The aponeuroſis, that joins the tendon of the extenſor indicis; produced in its lower part y, by the tendon v; and coming in its upper part from the capſule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. ψ &c. and Fig. 7. e &c.

The *ſyſtematic connexion* appears in Tab. VII. σ ς τ υ in the right hand; where it is partly covered by the anterior interoſſeus of the middle finger λ. Then in Tab. VI. q r in the right hand; where the reſt of it is under the anterior interoſſeus of the middle finger i k. The like alſo appears in Tab. V. 1. 2. Ψ in the right hand.

α The tendon of the extenſor indicis. β the tendon of the firſt lumbricalis. See Fig. 1. h. φ. &c.

γ The *anterior interoſſeus of the index*, ariſing at δ δ from the anterior ſide of the metacarpal bone of the index; and particularly from more than its upper half, from the root of the upper head of the ſaid metacarpal bone.

ε The end of its tendon, inſerted at ζ into the fore part of the upper head of the firſt bone of the index.

Add here Fig. 7. a &c.

The *ſyſtematic connexion* appears in Tab. VII. 2. 3 in the right hand. Then in Tab. VI. 2 in the right hand; where it is partly covered by the abductor indicis 3 z. Likewiſe in Tab. V. 11. in the right hand.

Moreover it appears in Tab III. e f in the left hand. Then in Tab. II. Φ in the left hand. And in Tab. I. w in the left hand; laterally in Tab. IX. o in the left hand.

FIGURE VII.

The internal interoſſei of the hand, viewed on their inner ſide.

a The *anterior interoſſeus of the index*, ariſing at b b b from the fore ſide of the metacarpal bone of the index; and particularly from more than the upper half of its length, juſt below the root of its upper head.

c The tendinous end, inſerted at d into the fore part of the upper head of the firſt bone of the index.

Add here Fig. 6. γ &c.

The *ſyſtematic connexion* appears in Tab. IV. v w in the right hand; where the greater part of it is covered by the adductor of the thumb s, and the ſhort flexor of it l. Then in Tab. III. z in the right hand; covered alſo by the abductor of the thumb b, and by the ſhort flexor Z, alſo by the firſt lumbricalis c. Then in Tab. II. z in the right hand, where it likewiſe lies under the abductor of thumb y, and the firſt lumbricalis γ, with the abductor indicis α β: and juſt in that manner it appears in Tab. I. a in the right hand.

e The *poſterior interoſſeus of the index*, ariſing at f f from that ſide of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; and particularly from more than half of its length, juſt below the root of its upper head.

g Its tendon, which being increaſed by a portion received from the extenſor indicis, runs to the third bone of the index.

The ſaid tendon alſo adheres by thin fibres to the capſule of the joint of this finger with its metacarpal bone, as it paſſes over the ſame towards the palm of the hand. In the ſame manner likewiſe are diſpoſed the anterior interoſſeus of the ring finger, and the anterior interoſſeus of the little finger.

Add here Fig. 6. t &c.

The *ſyſtematic connexion* appears in Tab. IV. x y in the right hand, where the greater part of it is covered by the adductor of the thumb s, and the ſhort flexor l. Then in Tab. III. x y in the right hand; covered alſo by the adductor of the thumb b; and that tendon of the profundus which belongs to the index H. Then in Tab. II. λ in the right hand, covered alſo by the tendon of the ſublimis P that belongs to the index. Then in Tab. I. v in the right hand, covered by the aponeuroſis of the palmaris longus γ ε.

Moreover in Tab. VIII. i in the left hand.

h The *anterior interoſſeus of the ring finger*, ariſing at i i from that ſide of the metacarpal bone of that finger, which lies next the metacarpal bone of the middle finger; and particularly from more than half its length, juſt below the root of its upper head.

k Its tendon, to which the tendon of the third lumbricalis (z γ δ Fig. 3.) l joins itſelf: and the common tendon formed by them m, being increaſed by a portion received from the tendon of the common extenſor of this finger, runs to its third bone.

Add here Fig. 6. k &c.

The *ſyſtematic connexion* appears in Tab. IV. ε ζ in the right hand, partly covered by the third lumbricalis η. Then in Tab. III. r in the right hand; where the reſt of it is covered by the third lumbricalis k, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. ο in the right hand; where alſo it is covered by the third lumbricalis η, and the tendon of the ſublimis N belonging to the index. Then in Tab. I. n in the right hand, covered by the third lumbricalis k, and the aponeuroſis of the palmaris longus γ ε.

Moreover in Tab. VIII. it appears at m in the left hand.

n The *interoſſeus of the little finger*, ariſing at o o from that ſide of the metacarpal bone of the ſaid finger, that lies next the metacarpal bone of the ring finger; and particularly from more than half its length, juſt below the root of its upper head.

p The tendon of this interoſſeus, which joins the tendon of the 4th lumbricalis (ε θ ι Fig. 3.) cut off at q: and the common tendon r, which is formed of it, being increaſed by a portion received from the extenſor proper to the little finger, runs to the third bone of the ſaid finger.

Add here Fig. 6. a &c.

The *ſyſtematic connexion* appears in Tab. IV. μ ν in the right hand; where it is partly covered by the fourth lumbricalis ξ. Then in Tab. III. above p in the right hand, where the reſt of it is covered by the fourth lumbricalis n, and tendon of the profundus L, belonging to the adductor of the fourth metacarpal bone

bone U. Then in like manner in Tab. II. σ in the right hand; and in Tab. I. o in the right hand.

Moreover in Tab. VIII. at o it appears in the left hand.

FIGURE VIII.

The bicipital or external interoſſei of the hand viewed on their inner ſide.

a—f *The anterior interoſſeus of the middle finger.*

a The ſmaller head which ariſes from the metacarpal bone of the index.

b The thicker head, ariſing at c c from a little more than the upper half of that ſide of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the index.

d The tendon of it that joins the tendon of the ſecond lumbricalis (u x y Fig. 3.) cut off here at e: and the common tendon formed thence f, being increaſed by a portion received from the tendon of the common extenſor, belonging to this finger, runs to the third bone of the ſaid finger.

The extremity alſo that lies under the former, uſually inſerts itſelf into the eminence that is juſt beneath the firſt head of the firſt bone. After the ſame manner are diſpoſed the poſterior external interoſſeus of the middle finger, and of the ring finger.

Add here Fig. 9. v x, &c.

The *ſyſtematic connexion* appears in Tab. IV. z in the right hand; where the greater part lies under the poſterior interoſſeus of the index x, the adductor of the thumb s, and the ſhort flexor l, with the ſecond lumbricalis α. Then in Tab. III. v in the right hand, placed likewiſe under the poſterior interoſſeus of the index x, the adductor of the thumb b, and the ſecond lumbricalis g. Then in Tab. II. μ in the right hand; placed under the poſterior interoſſeus indicis λ, the ſecond lumbricalis ζ, and the tendon of the ſublimis P belonging to the index. Then in Tab. I. m in the right hand; placed under the poſterior interoſſeus of the index v, the ſecond lumbricalis l, and the aponeuroſis of the palmaris longus γ ε.

Moreover in Tab. VIII. near k in the left hand.

g—k The *poſterior interoſſeus of the middle finger.*

g The ſmaller head, which ariſes from the metacarpal bone of the ring finger.

h The thicker head, ariſing at i i from a little more than the upper half of that ſide of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring finger.

k The tendon of it, which being increaſed by a portion received from the tendon of the common extenſor belonging to the middle finger, runs to the third bone of the ſaid finger.

Add here Fig. 9. m o &c.

The *ſyſtematic connexion* appears in Tab. IV. γ δ in the right hand; where a great part is covered by the anterior interoſſeus of the ring finger ε. Then in Tab III. t u in the right hand; where it is covered by the anterior interoſſeus of the ring finger r, and the tendon of the profundus belonging to the middle finger I. Then in Tab. II. ξ in the right hand; covered by the anterior interoſſeus

interoſſeus of the ring finger o, and tendon of the ſublimis belonging to the middle finger N. Then in Tab. I. t in the right hand; covered by the anterior interoſſeus of the ring finger n, and the aponeuroſis of the palmaris longus ε.

Likewiſe in Tab. VIII. l l in the left hand.

l—o The *poſterior interoſſeus of the ring finger.*

l The thinner head, that ariſes from the metacarpal bone of the little finger.

m The thicker head, ariſing from a little more than the upper half of that ſide of the metacarpal bone of the ring finger, that lies next the metacarpal bone of the little finger.

o The tendon of it, which being increaſed by a portion received from the tendon of the common extenſor belonging to the ring finger, runs to the third bone of the ſaid finger.

Add here Fig. 9. a c &c.

The *ſyſtematic connexion* appears in Tab. IV. ι κ in the right hand; where a great part of it is covered by the interoſſeus of the little finger μ. Then in Tab. III. q in the right hand; covered by the fourth lumbricalis n, and tendon of the profundus K. Then in Tab. II. ϱ in the right hand; in like manner covered by the fourth lumbricalis θ, and tendon of the profundus belonging to the ring finger. Then in Tab. I. r in the right hand; covered alſo by the fourth lumbricalis i.

Alſo in Tab. VIII. n n in the left hand.

FIGURE IX.

The bicipital or external interoſſei of the hand, viewed in their outer ſide.

a—h The *poſterior interoſſeus of the ring finger.*

a The thinner head, ariſing at b b from the outer edge of that ſide of the metacarpal bone of the little finger, that lies next the metacarpal bone of the ring finger, from the root of its upper head almoſt to its lower head.

c The thicker head, ariſing at d d from a little more than the upper half of that ſide of the metacarpal bone belonging to the ring finger, which lies next the metacarpal bone of the little finger.

e Its tendon, that joins itſelf with the tendon f of the common extenſor belonging to the ring finger, and being increaſed by a portion received from thence, runs to the third bone g of the ſaid finger.

h i The aponeuroſis, that joins to the tendon of the common extenſor belonging to the ring finger; produced in its lower part h from the tendon e; in its upper part i ſpringing from the capſule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. L &c. and Fig. 8. l m &c.

The *ſyſtematic connexion* appears in Tab. VI. π ϱ ς σ τ in the right hand. Then in Tab. V. μ μ ν ξ ο λ in the right hand; where the reſt of it lies under the tendons of the common extenſor of the fingers f f, &c. and under the tendon of the extenſor proper to the little finger c.

Moreover in Tab. VII. s t &c. in the right hand. Alſo in Tab. III. i in the left hand: and in Tab. II. 2 in the left hand.

k The tendon, belonging to the ring finger from the common extenſor. l the tendon common to the anterior interoſſeus of the ring finger and third lumbricalis. See Fig. 1. θ l. &c.

m—t The *poſterior interoſſeus of the middle finger.*

m The thinner head, ariſing from the outer edge of that ſide of the metacarpal bone of the ring finger, that lies next the metacarpal bone of the middle finger; from the root of its upper head almoſt to the lower head of the ſaid bone.

o The thicker head ariſing at p p from a little more than the upper half of that ſide of the metacarpal bone of the middle finger, that lies next the metacarpal bone of the ring finger.

q The tendon of it that joins with the tendon r of the common extenſor r belonging to the middle finger, and being increaſed by a portion received from thence, runs to the third bone s of the middle finger.

t u The aponeuroſis that joins the tendon of the common extenſor belonging to the middle finger, produced in its lower part t from the tendon q; coming its upper part at u from the capſule of the joint of this finger, with its metacarpal bone.

Add here Fig. 1. E, &c. and Fig. 8. g h, &c.

The *ſyſtematic connexion* appears in Tab. VI. a b c f g h in the right hand. Then in Tab. V. χ ψ ω Γ φ in the right hand, where the reſt lies under the tendons of the common extenſor of the fingers f n o p.

Likewiſe in Tab. VII. ε ζ &c. in the right hand. Alſo in Tab. III. h in the left hand. And in Tab. II. ι in the left hand.

v—ε The *anterior interoſſeus of the middle finger.*

v The thicker head, ariſing at w w from a little more than the upper half of that ſide of the metacarpal bone of the middle finger, that lies next the metacapal bone of the index.

x The thinner head, ariſing at y y from the outer edge of that ſide of the metacarpal bone of the index, that lies next the metacarpal bone of the middle finger; from the root of its upper head almoſt to its lower head.

z Its tendon, which being received by the inner part of the tendon of the ſecond lumbricalis, joins itſelf at α with the tendon of the common extenſor belonging to the middle finger, and being increaſed by a portion received from thence, it runs to the third bone β of the middle finger.

γ The common end, in which the tendons s, β are conjoined, inſerted at δ into the third bone.

ε ζ The aponeuroſis, that joins the tendon of the common extenſor belonging to the middle finger; produced in its lower part ε from the tendon z, in its upper part ζ from the capſule of the joint of this finger with its metacarpal bone.

Add here Fig. 1. C &c. and Fig. 8. a b &c.

The *ſyſtematic connexion* appears in Tab. VI. i i k k l m n p in the right hand; where it lies partly under the tendon of the indicator muſcle. Then in Tab. V. Θ Θ Θ Λ Ξ Π Σ Δ in the right hand; where in part alſo it lies under the tendon t of the indicator, and likewiſe under the tendon r of the common extenſor, and its aponeuroſis s.

Moreover

Moreover in Tab. VII. at λ μ &c. in the right hand. And in Tab. III. g in the left hand: and Tab. II. Ω in the left hand.

η The tendon of the common extenſor belonging to the middle finger. See Fig. 1. ι λ.

MUSCLES OF THE LITTLE FINGER.

Add here the *extenſor proper to the little finger*, Fig. 1. α &c.

FIGURE X.

The ſmall flexor of the little finger.

a Its origin from the outer part of the carpal ligament, and at b from the middle of the extremity of the crooked proceſs of the cuneiform bone of the wriſt.

c The tendon, in which it ends; and by which, joining the tendon of the abductor, it forms the common tendon d: and that conjoins itſelf with the tendon of the extenſor proper to the little finger; and being increaſed by a portion received from thence, it runs to the third bone of this finger. See Fig. 1. R υ S T U.

Add here Fig. 1. R &c. and Fig. 6. i.

The *ſyſtematic connexion* appears in Tab. II. τ υ φ in the right hand. Then in Tab. I. f h p in the right hand; where it is partly covered by the palmaris brevis g g, and partly by the aponeuroſis of the palmaris longus γ.

Moreover in Tab. VI. ζ in the left hand. Alſo in Tab. V. χ in the left hand. And in Tab. IX. i in the right hand.

FIGURE XI.

The abductor of the little finger.

a Its origin from the inner and back part of the round protuberance in the piſiform bone; and from the adjacent inner ligament of the wriſt at b.

c One of the tendons, in which it ends; inſerted at d into the back part of the upper head of the firſt bone of the little finger, juſt beneath its upper edge.

e The other tendon, that joins itſelf to the tendon of the ſmall flexor, here cut off at f: and the common tendon thence produced, immediately inſerts itſelf beneath the ſaid tendinous end d, into the ſame head of the bone where it is unequally protuberant: then at g (which is d Fig. 10.) it joins the tendon of the extenſor proper to the little finger.

The aponeurosis, which this tendon gives to the extensor tendon of the little finger, see in Tab. V. α in the right hand: and in Tab. VI. x in the right hand: and Tab. VII. l in the right hand.

Add here Fig. 1. R &c, and Fig. 6. i.

The *systematic connexion* appears in Tab. II. ψ ω in the right hand; partly covered by the small flexor τ υ φ. Then in Tab. I. c in the right hand; in part also covered by the small flexor h p, and in part by the palmaris brevis g g.

Moreover in Tab. VI. θ in the left hand: and ζ in the right hand. Also in Tab. V. τ in the left hand: and β in the right. And in Tab. IX. k in the right hand.

MUSCLES OF THE INDEX OR FORE-FINGER.

FIGURE XII.

The indicator.

a The tendinous beginning, arising at b b near the back part of the extensor major of the thumb, from the outer spine of the ulna, beginning near the middle of that bone; afterwards, below the origin of the said extensor major of the thumb from the ulna, it arises from the interosseus ligament of the cubit near the ulna.

c The tendon in which it ends, and which runs together with the common extensor of the fingers under the outer armillary ligament of the wrist (16 Tab. V. in the right hand) thro' the common sinus.

d The conjunction of this tendon, with the tendon of the common extensor of the fingers belonging to the index e, here cut off; and with that it forms the common tendon f.

Add here Fig. 1. V h x λ μ ν ξ, &c.

The *systematic connexion* appears in Tab. VI. f g h in the arm. Then in Tab. V. t in the right hand, where part of it is covered by the tendon r of the common extensor of the fingers: and in the cubit it lies under the said common extensor d, &c. and under the extensor proper to the little finger a, with the ulnaris externus w.

Moreover in Tab. II. Ψ Ψ in the left hand: and in Tab. I. it appears at u u in the left hand. Also in Tab. IX. u in the left hand.

g The tendon of the posterior interosseus of the index. See ψ Fig. 1.

h The tendon of the first lumbricalis. See φ Fig. 1.

FIGURE

FIGURE XIII.

The abductor indicis, externally.

a The tendinous beginning, by which it ariſes at b from the back of the larger multangular bone.

c Its origin from the upper part of the edge of the metacarpal bone of the thumb, that lies next to the index.

d The portion that ariſes from the inner and upper part of the metacarpal bone of the index.

e The aponeuroſis which it conjoins with the tendon of the firſt lumbricalis, and with the common tendon of the extenſors of the index, h Fig. 1: from whence it is here cut off at f.

Add here Fig. XIV.

The *ſyſtematic connexion* appears in Tab. VI. 3 z in the right hand, where it lies partly under the tendon c of the extenſor major of the thumb. And in Tab. V. 12. 5 in the right hand; covered in like manner by the tendon 13 of the extenſor major of the thumb.

Moreover in Tab. II. it appears at Σ in the left hand: and in Tab. I. at x in the left hand: alſo in Tab. IX. at π in the left hand.

FIGURE XIV.

The abductor of the index, in its inner ſide.

a Part of its tendinous beginning.

b The tendinous end, by which it is inſerted at c into the upper head of the firſt bone of the index.

Add here Fig. 13.

The *ſyſtematic connexion* appears in Tab. II. α β in the right hand; where the greater part of it is covered by the adductor of the thumb y, and the ſhort flexor x, with the firſt lumbricalis γ. And in Tab. I. b in the right hand; covered in the ſame manner by the adductor of the thumb Ψ, and the ſhort flexor Φ, with the firſt lumbricalis Ω w.

MUSCLES OF THE THUMB.

FIGURE XV.

The opponent of the thumb.

a Its origin from the anterior of thoſe eminences in the larger multangular bone, that help to form the ſinus, thro' which the tendon of the radialis internus

internus paſſes to the hand; and at b b b from the carpal ligament, with a tendinous beginning.

c The tendinous portion of its extremity.

d d Its inſertion at the inner ſide of the metacarpal bone of the thumb, at its lower head. It is alſo inſerted along the whole anterior edge of that ſide of the bone.

e The impreſſion formed by the ſhort abductor of the thumb, and by its ſecond ſhort abductor.

The *ſyſtematic connexion* appears in Tab. II. q &c. in the right hand; in part covered by the ſecond ſhort abductor of the thumb u, and the tendon f of the leſs extenſor of the thumb. Then in Tab. I. X in the right hand; in a great meaſure covered by the ſhort abductor of the thumb Y; and a ſmall part by the tendon d of the leſs extenſor of the thumb.

Moreover in Tab. VI. ϱ in the left hand. And in Tab. II. Γ in the left hand. Alſo in Tab. I. z in the left hand. And in Tab. IX. λ in the left hand.

FIGURE XVI.

The abductor brevis of the thumb.

a a Its origin from the inner carpal ligament.

b Its tendinous end, of which the part c is inſerted into the inner and fore part of the upper head of the firſt bone of the thumb.

d A thin tendinous portion, that climbs on the back of the thumb, and joins with the fore part of the tendons of the extenſors of the thumb, and is continued over the ſurface of thoſe tendons to a like aponeuroſis of the ſhort flexor of the thumb.

e The portion, which the tendon of the upper part of the long abductor of the thumb ſends to the ſhort abductor. See Fig. 19. e: from whence it is here cut off.

The *ſyſtematic connexion* appears in Tab. I. Y Z Γ in the right hand. And in Tab. II. k in the right hand.

Moreover in Tab. V. θ ϰ in the left hand. And in Tab. IX. ι ϰ in the left hand; and a b in the right hand.

f The tendon of the leſs extenſor of the thumb here cut off.

g The common tendon of the extenſors of the thumb.

FIGURE XVII.

The ſecond ſhort abductor of the thumb.

a Its origin, from the lower and outer part of the inner carpal ligament.

b Its tendinous end, inſerted at c into the inner and fore part of the upper head of the firſt bone of the thumb.

The *ſyſtematic connexion* appears in Tab. II. u &c. in the right hand; at its end covered by the aponeuroſis of the ſhort abductor of the thumb k. Then

in

in Tab. I. A in the right hand; where it is alſo covered by the ſhort abductor Y Γ, and the aponeuroſis of the palmaris longus γ.

Moreover in Tab. VI. it appears at τ in the left hand. And in Tab. V. λ in the left hand. Alſo in Tab. IX. c in the right hand.

FIGURE XVIII.

The long abductor of the thumb, in its outer part.

a a The tendinous beginning, ariſing at b b from the ſpine of the ulna, juſt above the middle of that bone, from its outer part, near the lower portion of the ſupinator brevis.

d The part that ariſes at e e from the outer ſide of the radius, near the lower part of the ſupinator brevis, oppoſite its origin from the ulna.

Alſo beneath it ariſes from the outer part of the interoſſeus ligament, that is ſeated betwixt the radius and ulna, and between the two foregoing originations of it from the radius and ulna.

f The tendinous portion of the ſaid intermediate part.

g The tendon of its upper part.

h The tendon of its lower part, here cut off at i.

The tendons ſlide down thro' the anterior ſinus that is in the lower head of the radius, under the ligament, 20 in the right hand of Tab. V. and in Tab. IX. ν in the left hand.

Add here Fig. 19.

The *ſyſtematic connexion* appears in Tab. VI. Λ—Φ in the arm; where it is covered by the ſhorter radialis externus V, the ſupinator brevis Δ, the extenſor major of the thumb a, and leſs extenſor Ψ Ω. Then in Tab. V. 21—23 in the cubit; covered by the ſhorter radialis externus H, the common extenſor of the fingers d, the proper extenſor of the little finger a, and the leſs extenſor of the thumb 24, 25.

Moreover in Tab. II. it appears in the left cubit at Z a b. And in Tab. I. Φ χ ψ ω b b in the left arm. And in Tab. IX. x y y z z in the left arm and hand.

FIGURE XIX.

The long abductor of the thumb, in its inner part.

a Its inner part, that lies next the ſupinator longus and radialis externus.

b Its upper part. c the tendon, in which it ends; of which the part d is inſerted into the inner ſide of the larger multangular bone, near the thumb; and the portion e joins the ſhort abductor of the thumb, here cut off, V. e Fig. 16.

f Its lower part. g the tendon, in which it ends; inſerted at h into the tubercle, that is in the inner and fore part of the upper head of the metacarpal bone of the thumb, above its internal edge.

The

The tendons ſlide down thro' the anterior ſinus in the lower head of the radius, under the ligament to be ſeen at υ in Tab. I. in the arm.

Add here Fig. 18.

The *ſyſtematic connexion* appears in Tab. II. a b c d in the right cubit; where its end is covered by the opponent of the thumb q in the hand. Then in Tab. I. χ ω ω a b b in the right arm; where likewiſe its end lies under the opponent X, in the hand.

Moreover it appears in Tab. V. η in the left hand.

FIGURE XX.

The ſhort flexor of the thumb.

a Its origin, from the inner and lower part of the leſs multangular bone, from the os magnum vel capitatum b, and from the cuneiform bone c. It ariſes alſo from the inner eminence of the larger multangular bone. And below its origination from thoſe bones, it likewiſe ſprings from the adjacent heads of the metacarpal bones, belonging to the index and middle finger, and often from thoſe of the ring finger and thumb.

d One of its tails, inſerted by the tendinous end e into the upper part of that ſeſamoide bone f, which is placed outermoſt or fartheſt from the index, at the joint of the thumb with its metacarpal bone.

g The other tail, inſerted by the tendinous end h into the ſeſamoide bone i, that is neareſt the index; into the upper part of it, and that ſide which is neareſt the index: and a little below that, it is inſerted at k into the neareſt lateral part of the upper head of the firſt bone of the thumb.

The aponeuroſis, produced from the tail which is neareſt the index, and which joins the aponeuroſis inveſting the capſule of the joint of the thumb with its metacarpal bone, and with that adheres to the common end of the extenſor tendons of the thumb, may be ſeen in Tab. IV. r in the left hand.

The *ſyſtematic connexion* appears in Tab. IV. l—q in the right hand; where a ſmall part is covered by the adductor of the thumb s. Then in Tab. III. Z Z in the right hand; where it is cover'd by the adductor of the thumb b, and by the tendon A of the long flexor of the thumb, and by the 1ſt lumbricalis c; and at its origin it lies hid behind the inner armillary ligament of the wriſt N. Then in Tab. II. x in the right hand; covered by the adductor of the thumb y, by the tendon of the long flexor of the thumb V, with the firſt lumbricalis γ, the ſhort abductor of the thumb u, and the opponent q. So alſo in Tab. I. at Φ in the right hand, it appears covered with the ſame muſcles.

Moreover it appears in Tab. VIII. Ψ—e in the left hand. Alſo in Tab. VII. Φ Ψ in the left hand. Tab. VI. χ in the left hand. Tab. V. ξ in the left hand. And Tab. IX. d in the right hand.

In its outer part it appears in Tab. VIII. Ψ f in the right hand. In Tab. VII. 4. 5 in the right hand. In Tab. VI. 6. 5 in the right hand. Tab. V. between 27 and 29 in the right hand. Then in Tab. IV. l r in the left hand. Tab. III. a b in the left hand. Tab II. ⊙ Λ in the left hand. Alſo in Tab. I. D in the left hand. And in Tab. IX. μ in the left hand.

FIGURE

FIGURE XXI.

The long flexor of the thumb.

a a The firſt origin of it from the radius; whoſe inner ſide it occupies, from near the tubercle into which the biceps of the arm is inſerted, almoſt down to the pronator quadratus. And it alſo ariſes from the interoſſeus ligament that is betwixt the radius and ulna.

b The tendinous part of its origin.

c The portion that joins this muſcle, ariſing by a ſlender tendon d, from the greater condyle of the humerus e, and is not often to be met with. f the tendon in which the ſaid portion ends; joins the fleſhy part of the flexor, and forms the firſt beginning of its tendon g.

The tendon paſſes thro' the inner ſinus of the carpus under the inner ligament, which ſee in Tab. III. N in the right hand.

h The tendon paſſing betwixt the ſeſamoide bones of the thumb.

i Its courſe along the thumb and its metacarpal bone, where it is in a manner ſplit longitudinally.

k Its inſertion nearly into the middle of the rough eminence, that is in the poſterior ſide of the laſt bone of the thumb.

The ligament, that confines it in paſſing along the firſt bone of the thumb. See in Tab. I. Σ in the right hand.

The *ſyſtematic connexion* appears in Tab. III. Π—B in the fore-arm and hand, where a ſmall part lies hid behind the pronator teres Λ, and the ſhorter radialis externus χ; but the acceſſory portion at its beginning lies behind the brachialis internus ν ο. Then in Tab. II. S T V W in the cubit, &c; where it lies behind the ſublimis C O, the ſupinator longus X, and the ſhort abductor of the thumb u in the right hand. Then in Tab. I. π ρ in the arm, and Ξ Ξ Π in the right hand; where it lies under the ſublimis ζ λ, the ſupinator longus Σ, the radialis internus Ω in the arm: and the ſhort abductor of the thumb Λ in the right hand.

Moreover it appears in the left cubit and hand of Tab. VII. at X X Y. In Tab. VI. Γ Δ in the left hand. And in Tab. V. ν ν in the left hand. Alſo in Tab. IX. f f in the left arm: and f f in the right hand.

FIGURE XXII.

The larger extenſor of the thumb.

a a Its origin from the outer part of the ulna, almoſt in the middle of it longitudinally. And at b it ariſes beneath from the ligament that is extended betwixt the radius and ulna.

c The tendinous part of its beginning.

d The tendon, in which it ends; and which runs down thro' the ſmall ſinus of the radius, that is juſt behind the ſinus, thro' which paſs the tendons of the

radiales externi: and it runs under the outer armillary ligament of the wriſt, which ſee in Tab. V. 16 in the right hand.

e The tendon of the leſs extenſor of the thumb, here cut off, ſee Fig. 23. c.

f The common end, in which the tendons of the larger and leſs extenſor of the thumb unite; inſerted at g into the oblong tranſverſe protuberance, that ſtands out from the upper and fore part of the laſt bone of the thumb.

The *ſyſtematic connexion* appears in Tab. VI. a b c d e in the arm; where it lies under the anconæus Y, and the indicator f g h. Then in Tab. V. 13. 26 in the right hand, where it lies under the common extenſor of the fingers d in the cubit, under the proper extenſor of the little finger a, and the ulnaris externus W.

Moreover in Tab. II. g g h in the left cubit. And in Tab. I. y A in the left hand. And in Tab. IX. $\gamma\ \gamma\ \delta$ in the left arm and hand.

h The aponeuroſis, that joins itſelf to the tendon of the common extenſors of the thumb, here cut off. Part of it incompaſſes the capſule of the joint of this thumb with its metacarpal bone, connected to the ſaid capſule: part of it ſprings from the poſterior tail of the ſhort flexor of the thumb. See 4 and 5 in the left hand of Tab. VI.

The aponeuroſis, which the common tendon receives on the other ſide from the ſhort abductor of the hand, ſee in Fig. 16. d.

FIGURE XXIII.

The leſs extenſor of the thumb.

a The tendinous part of its beginning, ariſing at b from the outer part of the ſpine of the ulna, to which is connected the ligament that lies betwixt the bones of the cubit. And below that origin it ariſes from the foreſaid ligament.

c The tendon, in which it ends; and which here paſſes thro' the anterior ſinus that is in the lower head of the radius, and under the ligament 20 in Tab. V. in the right hand, and Tab. I. υ in the arm, and Tab. IX. η in the left hand.

d The tendon of the larger extenſor of the thumb, here cut off; d Fig. 22.

e The common end, in which the tendons of the larger and leſs extenſor of the thumb unite; inſerted at f into the oblong tranſverſe protuberance, that ſtands out in the upper and fore part of the laſt bone of the thumb.

The *ſyſtematic connexion* appears in Tab. VI. Ψ Ω d in the arm; where at its origin it lies under the extenſor major of the thumb a c. Then in Tab. V. 24. 25. 26; in part covered by the common extenſor of the fingers d, and the extenſor proper to the little finger a.

Moreover in Tab. II. e f in the cubit. And in Tab. I. c d in the arms. And in Tab. IX. $\alpha\ \beta$ in the left arm and hand.

g The ſame aponeuroſis, that is marked h, Fig. 22.

FIGURE

FIGURE XXIV.

The adductor of the thumb.

a Its origin from the fore part of the upper head of the metacarpal bone of the ring finger, near the metacarpal bone of the middle finger; and afterwards at b b from the inner ſide of the metacarpal bone of that middle finger.

c The tendinous end, inſerted at d into that part of the upper head of the firſt bone of the thumb that lies next the index.

The *ſyſtematic connexion* appears in Tab. IV. s &c. in the right hand; in ſome meaſure covered by the ſhort flexor of the thumb l, and poſterior interoſſeus of the middle finger γ. Then in Tab. III. b b in the right hand; covered by the ſhort flexor of the thumb Z, the 1ſt and 2d lumbricalis c, g, with the tendon of the profundus H and I. Then in Tab. II. y in the right hand, where as before it is covered by the ſhort flexor of the thumb x, the firſt lumbricalis γ, the ſecond lumbricalis ζ, and the tendons of the profundus that belong to the index and middle finger, and the tendon of the ſublimis P that belongs to the index. Alſo in Tab. I. Ψ in the right hand, covered by the ſame muſcles.

Moreover it appears in Tab. VIII. g h in the left hand. Tab. VII. Ω in the left hand: and in Tab. VI. ω in the left hand. Tab. V. π in the left hand. And in Tab. IX. e in the right hand.

In its fore part it appears in Tab. VIII. g g h in the right hand. Tab. VII. 6. 7 in the right hand. Tab. VI. 7. 8 in the right hand. Tab. V. 29. 30 in the right hand. Then in Tab. IV. s u in the left hand. In Tab. III. c d in the left hand. In Tab. II. Ξ Π in the left hand. In Tab. I. F G in the left hand. And in Tab. IX. ν ξ in the left hand.

MUSCLES OF THE METACARPUS.

FIGURE XXV.

The adductor of the metacarpal bone of the little finger.

a Its origin from the poſterior and almoſt extreme part of the crooked proceſs of the cuneiform bone of the wriſt, a little below its middle: and at b from the adjacent outer part of the inner carpal ligament, below the ſaid proceſs.

c c In theſe parts it is inſerted into the metacarpal bone of the little finger, near its head: and betwixt them thro' its whole length: namely into the poſterior and inner part of that bone.

The *ſyſtematic connexion* appears in Tab. III. U &c. in the right hand. Then in Tab. II. χ χ in the right hand, covered by the abductor of the little finger ψ, and the ſmall flexor τ. Then in Tab. I. f in the right hand, covered by the abductor of the little finger c, by the ſmall flexor h, the palmaris brevis g g, and the aponeuroſis of the palmaris longus γ.

Moreover in Tab. VII. it appears at Ξ Π Σ in the left hand; and a in the right hand. Alſo in Tab. IX. l in the right hand.

MUSCLES OF THE PALM.

FIGURE XXVI.

The palmaris longus and brevis.

a—o The *palmaris longus.*

b The tendinous beginning, ariſing from the end of the inner part of the poſterior condyle of the os humeri; which beginning afterwards runs thro' it at c: but belongs to the common tendinous head, by which it ariſes with the other muſcles from this condyle; and from which it is ſeparated in the ſame manner with that of the radialis internus Tab. XIX. Fig. 9. a.

d The tendon, in which it ends.

e The aponeuroſis, in which the ſaid tendon expands; and which partly ariſes from the inner ligament of the wriſt. The ſaid aponeuroſis is firſt ſlightly diſtinguiſhed into the four portions f. g. h. i, going to the fingers; which are afterwards ſo far divided that they only cohere by the tranſverſe tendinous threads k k k.

l. l: l. l: l. l: l. l The bifurcated extremity, in which each portion ends upon the finger to which it belongs; and which are inſerted into the tranſverſe ligament that is at the roots of the fingers, as well into the parts m m m m that lie betwixt the two horns of each portion, as into the parts n. n. n that are immediately covered by the portions themſelves betwixt thoſe horns. And at the upper part of the ſaid ligament, they are inſerted by a ſmall portion into the middle of the inner ſide of the metacarpal bones.

o The portion cut off, which it gives to the ſhort abductor of the thumb.

The *ſyſtematic connexion* appears in Tab. I. α—ε in the arm; where at its origin it lies under the pronator teres Φ. Alſo in Tab. V. L in the cubit, and ϱ in the left hand. And in Tab. IX. ν ξ in the right arm.

p p The *palmaris brevis*, unequally divided into portions.

q q Its detachment from the beginning of the aponeuroſis of the palmaris longus. It alſo goes off from the outer part of the inner carpal ligament near the thumb.

r r The extremities, which are inſerted into the tendinous covering of the hand that lies next to the common integuments, and belonging to the fourth metacarpal bone.

The *ſyſtematic connexion* appears in Tab. I. g g in the right hand; where (as here) part of its origin lies under the aponeuroſis of the palmaris longus γ.

Moreover in Tab. V. it appears at σ σ in the left hand. And in Tab. IX. h in the right hand.

THE

THE

Twenty-firſt Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE THIGH.

Add here Tab. XXII. Fig. 1. 2. 3. 4. 5. 6. 7. 8. And the *abductor faſchialis femoris*, Fig. 8. Tab. XXIII.

FIGURE I.

The gluteus magnus.

The fleſh of this muſcle is outwardly collected into ſmall bundles looſely cohering together.

a a Its origin from the os ilium at the outer edge of the back part of its ſpine, by which that bone is extended backwards over the os ſacrum. It ariſes with a tendinous beginning.

It alſo adheres ſo firmly to the ligamentum ſacro-iſchiaticum, and to the ligament that goes from the os ſacrum, to the ſpine or criſta of the os ilium; as alſo to the tendinous vagina that covers it outwardly, that it ſeems to ariſe from each of them. Its ſaid origin (a a) is alſo continued to the tendinous origin of the latiſſimus dorſi, and common heads of the longiſſimus dorſi and ſacrolumbalis. See Tab. V. ♂♂ in the buttock.

b The place where it ariſes from the outer edge of the os ſacrum.

c Its origin from the firſt protuberance, at the ſide of the opening in which the canal of the ſpina dorſi, including the ſpinal medulla, terminates.

d Its origin from the juncture of the oblique proceſſes of the os ſacrum and coccygis.

e Its origin from the ſide of the os coccygis.

f The tendon, in which it ends; and which is inſerted into the protuberance of the thigh-bone, that is extended along its back part downwards from the root of the great trochanter; and it principally inſerts itſelf into the upper part of this eminence, where it is generally the moſt rough and protuberant.

It

It alſo coheres with the tendinous faſchia or covering that binds together the adjacent muſcles of the thigh.

g The place where it coheres to the vaſtus externus.

The *ſyſtematic connexion* appears in Tab. V. γ in the buttock. Alſo in Tab. IX. w x y in the hip. And in Tab. I. A in the thigh.

FIGURE II.

The middle gluteus, in its back part.

a a a Its origin from the whole extent of the back of the os ilium, from near its ſpine.

b Its tendinous extremity, inſerted obliquely at c c into the trochanter major, from the tip to its root.

d d The impreſſion made in it by the gluteus magnus.

Add here Fig. 3.

The *ſyſtematic connexion* appears in Tab. VI. i &c. in the lower part of the trunk. Then in Tab. V. Y in the buttock, where the remaining part of it is covered by the gluteus magnus w.

FIGURE III.

The middle gluteus, in its fore part.

a Its outer part. b its inner part.

c c Its origin from the ſpine of the ilium.

d The tendinous portion, by which the tendinous end begins internally.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. II. s in the trunk; where the reſt of it is covered by the gluteus minor u. Then in Tab. I. K in the thigh; where it lies partly behind the tenſor or abductor faſchialis femoris M.

FIGURE IV.

The gluteus minor, in its back part.

a a a The firſt of its origination from the back of the os ilium, from all that part of it which lies betwixt the origins of the middle gluteus and beginning of the iſchium, and from the poſterior edge of the upper part of the iſchium itſelf.

b The tendinous portion, that begins outwardly from its tendinous inſertion.

Add here Fig. 5.

The *ſyſtematic connexion* appears in Tab. VII. z &c. in the hip. In Tab. VI. it lies under the gluteus medius i in the lower part of the trunk, and the pyriformis n.

FIGURE

FIGURE V.

The gluteus minor in its fore part.

a a Its origin from the os ilium.

b Its outer part. c its inner part.

d Its tendinous end that terminates in that fore part of the trochanter major that is near its outer ſide from the root to its tip. See Tab. III. ϱ in the trunk.

Add here Fig. 4.

The *ſyſtematic connexion* appears in Tab. III. ξ—σ in the trunk, where it lies under the iliacus internus ς. Then in Tab. II. u in the trunk; placed under the iliacus internus y in the thigh, and the rectus x. In Tab. I. it lies under the abductor faſchialis femoris M in the thigh.

FIGURE VI.

The pyriformis, in its back part.

a Its origin from the outer part of the poſterior and lower edge of the os ilium, near the os ſacrum.

b The tendon, in which it ends: for it is inſerted into the inner and middle part of the mount of the trochanter major.

Add here Fig. 7.

The *ſyſtematic connexion* appears in Tab. VI. n in the lower part of the trunk; where it is partly covered by the gluteus medius i, in part by the upper of the gemini q, and in part lies behind the os ſacrum. In Tab. V. it lies under the gluteus magnus χ in the buttock.

FIGURE VII.

The pyriformis, in its fore part.

a b. c d. e f Three portions, by which it ariſes from the fore part of the os ſacrum; being tendinous at their beginning b d f.

g The uppermoſt of them, ariſing from the fore part of the body of the ſecond vertebra of the os ſacrum, juſt above its ſecond foramen.

h The middle portion, from the fore part of the proceſs that lies betwixt the ſecond and third foramen.

i The lower portion, from the fore part of the proceſs that is betwixt the third and fourth foramen.

k The place where the muſcle is cut off.

Add here Fig 6.

FIGURE

FIGURE VIII.

The quadratus femoris, in its back part.

a The tendinous part of its beginning.

b b The extremity, inſerted into the oblong eminence of the thigh bone, that ſtands out partly from the poſterior ſide of the root of the trochanter major, and partly below the ſame.

Add here Fig. 9.

The *ſyſtematic connexion* appears in Tab. VI. z in the lower part of the trunk; in part ſeated under the lower of the gemini s, and hid behind the biceps of the thigh ı x, with the ſemimembranoſus. And what there appears naked in Tab. V. lies under the gluteus magnus γ in the buttock.

FIGURE IX.

The quadratus femoris, anteriorly.

a a Its origin from the outer edge of the tuberculum iſchii.

Add here Fig. 8.

FIGURE X.

The obturator internus.

a a a Its tendinous origin from the fore part, and more than half the circumference of the great foramen in the os pubis; whence it firſt proceeds backwards thro' the ſide of the pelvis, and then bends round the margin of the iſchium at b, goes thro' the ſinus or notch that is betwixt the acute proceſs and the tuberculum iſchii; and afterwards it runs along the back of the iſchium.

c The tendon, in which it ends; inſerted at the inner and fore part of the mount of the trochanter major.

The *ſyſtematic connexion* appears in Tab. VII. Θ—Π in the hip; where, as in this figure, the extremity lies hid behind the trochanter major. Then in Tab. VI. w x x y in the lower part of the trunk; where at its origin it lies hid behind the levator ani e, and the coccygeus d; the extremity being under the gemini q. s. And what there appears naked, is in Tab. V. covered by the gluteus magnus γ in the buttock.

FIGURE XI.

The gemini or gemelli.

a The uppermoſt of the gemini, ariſing at b from the outer part of the end of the acute proceſs of the iſchium, near the ſinus or notch thro' which the obturator internus bends itſelf.

c The

c Then tendinous extremity.

d The lower of the gemini, ariſing at e e from the outer part of the tuberculum iſchii, near the lower part of the ſinus thro' which the obturator internus bends itſelf.

f The inner part of its beginning, ariſing outwardly at g g from the iſchium, and from the lunar edge of the ſinus thro' which the obturator internus bends itſelf.

h The tendinous ending.

The extremities being conjoined with the tendon of the obturator internus, are inſerted therewith into the inner and fore part of the mount of the trochanter major.

The *ſyſtematic connexion* appears in Tab. VI. q. s in the lower part of the trunk; where part of it is covered by the obturator internus w y; and the extremities themſelves lie hid behind the trochanter major, as in the preſent figure. In Tab. V. it lies under the gluteus magnus γ in the buttock.

FIGURE XII.

The pſoas magnus.

a The tendinous beginning of its firſt head, ariſing at b from the lower edge of the body of the firſt dorſal vertebra, and at c from the ligament that is placed betwixt the body of that and the uppermoſt lumbal vertebra. And in ſome it ariſes from the next upper part of the body of that vertebra.

d e The tendinous beginning of the ſecond head, ariſing at d from the lower edge of the body of the fifth or uppermoſt lumbal vertebra, and at e from the ligament that is placed betwixt the body of that and the body of the next or fourth vertebra: and in others it ariſes even from the upper part of the body of the ſame fourth vertebra.

f g The tendinous beginning of the third head, ariſing at f from the lower margin of the body of the fourth lumbal vertebra, and from the ligament g that is betwixt the body of that and the body of the third vertebra: and in others alſo from the next adjacent upper part of the body of the 3d vertebra.

h i The tendinous beginning of the fourth head, ariſing at h from the lower edge of the body of the third lumbal vertebra, and at i from the ligament that is betwixt the body of that and of the ſecond vertebra: and in others alſo from the next adjacent upper part of the body of the ſecond vertebra.

k l The tendinous beginning of the fifth head, ariſing at k from the lower edge of the body of the ſecond lumbal vertebra, and from the ligament l that is betwixt the body of that and the body of the firſt vertebra: and in others alſo it ariſes from the next adjacent upper part of the body of the 1ſt lumbal vertebra.

m The tendon, in which it ends.

n n The place from whence the fleſh of the iliacus internus is cut off, at its conjunction with the tendon of that muſcle.

Add here Fig. 13. and 15.

The *ſyſtematic connexion* appears in Tab. IV. t &c. in the trunk; where it is in part covered by the pſoas parvus r s, and the diaphragm Q R. Then in Tab. III. τ υ in the thigh; where only that part which is in the thigh appears. Then in Tab. II. z in the thigh; in part covered by the internal obliquus of the abdomen O in the trunk, and alſo by the pectineus Γ in the thigh. Then in Tab. I. F in the thigh, covered by the obliquus externus of the abdomen u v in the trunk, and by the pectinæus E in the thigh, and by the ſartorius H.

FIGURE XIII.

The heads of the great pſoas.

Theſe are all cut off from the pſoas, under which they that ariſe from the bodies of the vertebræ are partly ſeated; but thoſe heads from the tranſverſe proceſſes are entirely ſeated under the muſcle.

a. d. g. k. n The five heads, which ariſe from the bodies of the vertebræ and their intermediate ligaments.

a The tendinous beginning of the firſt head, ariſing at b from the lower margin of the body of the loweſt dorſal vertebra, and at c from the ligament that is betwixt the body of that and the body of the uppermoſt lumbal vertebra.

d The ſecond head, which ariſes with a tendinous origin e f, at e from the lower margin of the body of the fifth lumbal vertebra, and at f from the ligament that is betwixt the body of that and of the 4th or next lumbal vertebra.

g The third head, which ariſes with a tendinous beginning h i, at h from the lower margin of the body of the fourth lumbal vertebra, and at i from the ligament that is betwixt the body of that and the third lumbal vertebra.

k The fourth head, ariſing with a tendinous origin l m, at l from the lower margin of the body of the third lumbal vertebra, and at m from the ligament that is betwixt the body of that and of the ſecond vertebra of the loins.

n The fifth head, which ariſes with a tendinous origin o p, at o from the lower margin of the body of the ſecond lumbal vertebra; and at p from the ligament betwixt the body of that and of the firſt lumbal vertebra.

q. s. u. w. y The five heads, which ariſe from the fore and lower part of the tranſverſe proceſſes of the lumbal vertebræ.

q The firſt head, ariſing with a tendinous beginning at r from the tranſverſe proceſs of the fifth vertebra.

s The ſecond head, ariſing with a tendinous origin t from the tranſverſe proceſs of the fourth vertebra.

u The third head, ariſing with a tendinous origin v from the tranſverſe proceſs of the third vertebra.

w The fourth head, ariſing with a tendinous origin x from the tranſverſe proceſs of the ſecond lumbal vertebra.

y The

y The fifth head, ariſing with a tendinous origin z from the tranſverſe proceſs of the firſt vertebra.

Add here Fig. 12. and 15.

FIGURE XIV.

The iliacus internus.

a The portion, by which it ariſes from the back part of the tranſverſe proceſs of the firſt or lowermoſt lumbal vertebra.

b The origin from the ligament k.

c c d The firſt of its origination from the inner ſurface of the os ilium, juſt below the ſpine of that bone; and its origin is continued from the whole upper ſurface of that bone.

Below d, where the criſta or ſpine of the os ilium terminates before, it alſo ariſes from the anterior part of the os ilium, and then from its inner ſurface, and from the lower part of the root of the protuberance that ſtands out from its ſaid margin; and likewiſe from the adjacent part of the capſule that contains the joint of the thigh bone.

e The concave part of the muſcle, next the cavity of the abdomen.

f f The joining of the fleſh of this muſcle with the tendon of the pſoas; it alſo coheres beneath it.

g The inſertion alſo of the fleſhy part itſelf of this muſcle, below the tendon of the ſaid pſoas magnus.

h The place where the pſoas magnus is cut off.

i The tendon common to the pſoas magnus and iliacus internus.

Add here Fig. 15.

The *ſyſtematic connexion* appears in Tab. IV. y in the trunk; where it lies partly under the pſoas magnus t; then in Tab. III. ς in the thigh; where only that portion of it can be ſeen which enters into the thigh; it is alſo in part covered by the tranſverſus of the abdomen p p in the trunk, and partly by the pſoas magnus τ υ in the thigh. Then in Tab. II. y in the thigh; covered by the obliquus internus of the abdomen O O in the trunk, the pſoas magnus z in the thigh, the pectineus Γ, and the rectus x. Then in Tab. I. G in the thigh; covered by the obliquus externus of the abdomen u in the trunk, the pſoas magnus F in the thigh, and the ſartorius H.

k The ligament, that is extended from the tranſverſe proceſs of the loweſt lumbal vertebra, to the neareſt part of the ſpine of the ilium.

FIGURE XV.

The inſertion of the pſoas magnus and iliacus internus, in its back part.

a The iliacus internus.

Add here Fig. 14.

The *ſyſtematic connexion* appears in Tab. VIII. ο (and the reſt of the iliacus internus ξ) in the hip and thigh, where the external obturator ϱ, covers it in

part. Then in Tab. VII. Ψ in the hip and thigh; covered alſo in part by the obturator externus Σ. And what is there naked, in Tab. VI. lies behind the quadratus ſemoris z in the lower part of the trunk.

b The tendon, common to the pſoas magnus and iliacus internus, inſerted at c c into the leſs trochanter, which it in a manner encompaſſeth.

Add here Fig. 12. and 13.

The *ſyſtematic connexion* appears in Tab. VIII. π in the hip and thigh, where part of the end is covered by the obturator externus ϱ, with the adductor of the thigh ω. Then in Tab. VII. Ω in the hip and thigh, where part of the end is in the ſame manner covered by the obturator externus Σ, and the adductor magnus femoris O. And what is there uncovered, in Tab. VI. lies behind the quadratus femoris z in the lower part of the trunk.

The remaining part is behind the pſoas magnus Tab. VIII. ν in the hip. Then in Tab. VII. y in the hip. In Tab. VI m in the lower part of the trunk; and the reſt lies behind the pyriformis n, and the gluteus medius i.

FIGURE XVI.

The adductor magnus of the thigh, in its fore part.

a a Its origin from the outer part of the anterior edge of the os pubis, near its ſynchondroſis; from whence it continues to ariſe as far as the tubercle of the iſchium.

b. c. d Portions which are in ſome degree diſtinguiſhed one from the other, chiefly by the different courſe of the fibres; and which together make the upper extremity of this muſcle, inſerted along the rough line on the back part of the thigh bone.

e f A portion that is more diſtinct from the reſt, ending in the lower extremity, inſerted at the lower condyle of the femur. f the tendon that ariſes from the fleſhy part.

Add here Fig. 17.

The *ſyſtematic connexion* appears in Tab. IV. κ λ μ ν ξ ο in the thigh; where part of it is covered by the common end of the pſoas magnus and iliacus internus x. Then in Tab. III. Δ Δ Θ Λ Ξ in the thigh, where the reſt of it is covered by the ſame common end of the pſoas magnus and iliacus internus υ ς, and by the adductor brevis of the thigh ψ, with the gracilis Ψ. Then in Tab. II. Π in the thigh; where alſo the reſt of it is covered by the common end of the pſoas magnus and iliacus internus z y, the pectineus Γ, the long adductor of the thigh Δ, the gracilis Λ, and the vaſtus internus Σ. Then in Tab. I. C in the thigh; covered by the ſartorius H, the adductor longus of the thigh D, the gracilis B, and the other muſcles remarked in Tab. II.

FIGURE XVII.

The adductor magnus of the thigh, in its back part.

a b Its origin from the outer part of the tuberculum iſchii, as far as its bottom: a the tendinous portion, b the aponeuroſis that runs thro' the fleſhy part at c.

d The

d The portion that ſprings from the fore part, where it ariſes along the height of the os pubis.

e e The broad extremity, which ends in ſome meaſure tendinous, at its inſertion along the femur at f f f into the linea aſpera, that runs along the whole back part of that bone.

g The lower end, that forms the tendon h, inſerted at i into the middle of the upper part of the ſide of the inner condyle of the thigh-bone.

k The impreſſion made in this muſcle by the gluteus magnus.

l l All that part which is made concave, by the impreſſion of the ſemi-membranoſus and ſemitendinoſus.

Add here Fig. 16.

The *ſyſtematic connexion* appears in Tab. VIII. ς—D in the thigh. Then in Tab. VII. K N in the thigh; placed alſo under the ſemimembranoſus A C, and the ſhorter head of the biceps cruris P. Then in Tab. VI. ε ε in the thigh; covered alſo by the biceps cruris θ λ, by the ſemitendinoſus ο π, the ſemimembranoſus φ; and at its origin hid behind the tranſverſus of the perinæum h, and the ſecond tranſverſalis g, in the lower part of the trunk. Then in Tab. V. θ in the thigh; placed under the ſemimembranoſus ν, and the ſemitendinoſus π, as in Tab. VI; alſo under the gluteus magnus γ in the buttock.

THE

THE

Twenty-ſecond Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

REMAINING MUSCLES OF THE THIGH.

Add here Tab. XXI.

FIGURE I.

The adductor longus of the thigh, in its fore part.

a The tendinous beginning, ariſing at b from the ligament by which the ſynchondroſis of the oſſa pubis is tied together in its fore part, immediately above the protuberance that is in the anterior and upper part of the os pubis: and at c from the ſaid protuberance itſelf.

d The tendinous part of its extremity.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. II. Δ Θ in the thigh; covered by the vaſtus internus Φ Σ, and the gracilis Λ Ξ; and hid alſo behind the teſticle and cremaſter muſcle p. Then in Tab. I. D in the thigh, covered by the ſartorius H, the gracilis B; and likewiſe hid behind the teſticle and cremaſter z.

Laterally it appears in Tab. IX. m in the left hip and thigh.

FIGURE II.

The end of the long adductor of the thigh, in its back part.

a a The fleſhy part cut off.

b The tendinous part of its end, inſerted at c c along the middle of the thigh bone, into the rough line that appears along the poſterior ſide of that bone.

Add here Fig. 1.

FIGURE

FIGURE III.

The end of the adductor brevis femoris, in its back part.

a a The fleſhy part cut off.

b. c. d The extremity divided into three portions, of which portions the part e is tendinous.

f g h h Their inſertion into the rough eminence or line that runs along or divides the back part of the femur; and particularly into the upper part of it that is next below the trochanter minor.

Add here Fig. 4.

FIGURE IV.

The adductor brevis of the thigh, in its fore part.

a The head which is outwardly tendinous, ariſing at b from the fore part of the os pubis at the ſynchondroſis or cartilaginous juncture, and below the origin of the adductor longus: ariſing alſo at c from the ligament that covers or confines the ſaid ſynchondroſis.

d The tendinous end.

In the middle is an impreſſion or cavity made in this muſcle, by the pectineus and long adductor of the thigh.

Add here Fig. 3.

The *ſyſtematic connexion* appears in Tab. III. ψ ω Γ in the thigh; covered by the gracilis Ω, and the iliacus internus with the pſoas magnus ς υ, and hid with its extremity behind the thigh bone. And what there appears naked, is in Tab. II. placed behind the long abductor of the thigh Δ Θ, with the pectineus Γ, and vaſtus internus Φ Σ.

FIGURE V.

The pectineus, in its fore part.

a a b Its origin at a a from the oblong eminence which runs all along the upper part of the os pubis, as far as the protuberance that ſtands out from its fore part near the ſynchondroſis; and at b from the ſaid protuberance itſelf.

c The tendinous end.

Add here Fig. 6.

The *ſyſtematic connexion* appears in Tab. II. Γ in the thigh, covered by the long abductor of the thigh Δ, the vaſtus internus Φ Σ, the pſoas magnus z, with the iliacus internus y, and the internal obliquus of the abdomen O in the trunk; and hid alſo behind the cremaſter p q in the trunk. Then in Tab. I. E in the thigh; covered likewiſe by the long abductor of the thigh D, and by the ſartorius H, and the external obliquus of the abdomen v in the trunk; hid alſo behind the cremaſter z in the trunk.

Laterally its connexion appears in Tab. IX. n in the left hip and thigh.

FIGURE

FIGURE VI.

The end of the pectineus, in its back part.

a a The fleshy part here cut off.

b The tendinous end, inserted at c c into the linea aspera of the thigh bone, where it is continued downward a little below the less trochanter.

Add here Fig. 5.

FIGURE VII.

The obturator externus, in its back part.

a The part that stops up the great foramen in the os pubis.

b b Part of its origin from the inner edge of the great foramen in the os pubis.

c The tendinous part of its extremity; the tendinous end of which is inserted into the back part of the inner side of the root of the great trochanter.

Add here Fig. 8.

The *systematic connexion* appears in Tab. VIII. ϱ ϱ σ τ in the ischium, partly hid behind the great adductor of the thigh ω. Then in Tab. VII. Σ Σ Φ in the ischium, covered by the obturator internus Θ—Π, and partly hid behind the adductor magnus of the thigh O, and the semimembranosus B in the thigh. Then in Tab. VI. ν ν in the lower part of the trunk; covered by the obturator internus w y, and the lower of the gemini s, and the quadratus femoris z; partly hid also behind the coccygeus d: and what is there uncovered, in Tab. V. lies behind the gluteus magnus γ in the buttock.

FIGURE VIII.

The obturator externus, in its fore part.

a a The tendinous beginning, arising at b b b from the fore part of the os pubis and ischium, and from the anterior half part of the circumference of the great foramen in the os pubis, continuing to arise from the top of the foramen to its bottom.

Add here Fig. 7.

The *systematic connexion* appears in Tab. IV. α β in the trunk; covered by the great abductor of the thigh κ λ, in the thigh, and the psoas magnus, with the iliacus internus x. Then in Tab. III. φ χ in the trunk and thigh, covered in like manner by the adductor magnus of the thigh Δ, and the psoas magnus with the iliacus internus υ, and also by the short abductor of the thigh ψ ω. And what is there (in Tab. III.) naked, in Tab. II. lies behind the pectineus Γ in the thigh.

MUSCLES OF THE LEG.

Add here Tab. XXIII. Fig. 1. 2. 3. 4. 5. 6. 7.

FIGURE IX.

The ſemimembranoſus, in its fore part.

a The tendon, by which it begins.

b The origin of the tendinous tail from its fleſhy part, which is afterwards wholly tendon at c, and inſerted chiefly at d into the upper head of the tibia, juſt below its upper round edge that is near the back part of its inner ſide.

e The anterior aponeuroſis, inſerted into the edge of the tibia, on that ſide where the principal part of the tendon inſerts itſelf.

Add here Fig. 10. a—g.

The *ſyſtematic connexion* appears in Tab. III. Π Σ Φ in the thigh; covered by the gracilis Ψ A B, the adductor magnus of the thigh Δ Θ Λ, and above the quadratus. And what appears naked in Tab. III. is in Tab. II. covered by the vaſtus internus Σ in the thigh. And in the firſt table it appears behind the inner head of the gemellus.

FIGURE X.

The ſemimembranoſus, and ſhort head of the biceps of the thigh, in their back part.

a—g The *ſemimembranoſus.*

a The tendon, by which it begins, ariſing at b from the upper part of the back of the tuberculum iſchii, near its outer ſide.

c The fleſhy belly.

d The origin of its tendinous tail from the fleſhy belly of the muſcle.

e The principal part of the ſaid tail, inſerted into the upper head of the tibia.

f The poſterior aponeuroſis of the ſaid tail, inſerted into the rough oblique eminence that is below the back part of the root of the upper head of the tibia, where it ſuſtains the inner condyle of the femur.

g The anterior aponeuroſis, which it inſerts into the inner edge of the tibia.

In the head and upper part of the belly of this muſcle, is a cavity impreſſed by the ſemitendinoſus.

Add here Fig. 9.

The *ſyſtematic connexion* appears in Tab. VII. A—G in the thigh; covered by the gracilis H I. Then in Tab. VI. φ—Γ in the thigh; covered in like manner by the gracilis ς—τ, and by the ſemitendinoſus ο—ς, and the biceps of the leg θ λ. Then in Tab. V. ψ ν ξ ο in the thigh, covered by the ſame muſcles as in Tab. VI. and moreover by the gemellus Π Σ in the leg.

Laterally its connexion appears in Tab. IX. P Q R S in the right leg.

h—m *The ſhort head of the biceps muſcle of the leg.*

i Its origin near the middle of the thigh-bone, from the lower part of the rough line that is extended along the back part of that bone. It alſo ariſes from the tendinous partition, that is placed betwixt itſelf and the vaſtus internus muſcle.

k k Part of the tendon cut off, which ariſes from the longer head of this muſcle.

l Part of the tendon, that is increaſed by the acceſſion of the fleſh of the ſhorter head.

m The tendinous end, inſerted at n into the outer part of the upper head of the fibula.

Add here Fig. 11. g—p. and Fig. 12. a—g.

The *ſyſtematic connexion* appears in Tab. VII. P &c. in the thigh. Then in Tab. VI. λ λ &c. in the thigh; covered by the longer head σ υ.

FIGURE XI.

The ſemitendinoſus and biceps of the leg, poſteriorly.

a—f The *ſemitendinoſus.*

a The tendinous part of its origin, ariſing at b from the back of the tuberculum iſchii, together with the longer head of the biceps; and then joining the tendinous beginning of that head at c c; from whence its beginning goes off.

d The fleſhy part of its origin, which in ſome other ſubjects is tendinous, ariſing from the back of the tuberculum iſchii.

e The tendon, in which it ends.

f The impreſſion made by the gluteus magnus.

Add here Fig. 12. h—m.

The *ſyſtematic connexion* appears in Tab. VI. ο—ς in the thigh; covered by the longer head of the biceps θ, and in the end placed behind the ſemimembranoſus Γ. Then in Tab. V. π ρ in the thigh; covered alſo by the longer head of the biceps σ, the ſemimembranoſus ε, and the gluteus magnus γ in the buttock.

Laterally its connexion appears in Tab. IX. T U in the right leg, and z in the left thigh.

g—p The *biceps of the leg.*

g The longer head of the biceps.

h The tendon, by which it begins, and ariſes at i from almoſt the middle of the upper part of the back of the tuberculum iſchii, conjoined at its origin with the beginning of the ſemitendinoſus.

k k The ſhorter head of this muſcle.

l The common tendon, in which the two heads terminate; ariſing firſt at l from the ſurface of the fleſh of the longer head, then increaſed by the acceſſion of the fleſh of the ſhorter head, and afterwards inſerted by the ſhort end n, into the outer part of the upper head of the fibula at o.

p The impreſſion made in this muſcle by the gluteus magnus.

Add

Add here Fig. 10. h—n. and Fig. 12. a—g.

The *ſyſtematic connexion* appears in Tab. VI. θ—ξ in the thigh. Then in Tab. V. σ—χ in the thigh, covered by the gluteus magnus γ in the buttock.

Laterally its connexion appears in Tab. IX. α—ζ in the left leg.

FIGURE XII.

The biceps and ſemitendinoſus, in their fore part.

a—g The *biceps of the leg.*

a The longer head of the biceps. b the tendon, by which it begins, and which runs a conſiderable way thro' its origination, from that part where it joins the ſemitendinoſus.

c The ſhorter head of this muſcle.

d The tendon, in which it ends; and of which principal part e is inſerted into the outer part of the upper head of the fibula: g the part belonging to the tibia, at its outer part before the head of the fibula.

Add here Fig. 11. g—p. and Fig. 10. h—n.

The *ſyſtematic connexion* appears in Tab. III. C D E F in the thigh; where the reſt lies behind the thigh bone and the large adductor of the thigh Δ Δ Θ. Then in Tab. II. ς ς τ in the leg and thigh; placed in like manner behind the vaſtus externus δ. Then in Tab. I. Ξ Π Σ in the thigh and leg; covered in like manner by the vaſtus externus P, and placed behind the outer head of the gemellus, and beginning of the plantaris.

h—m The *ſemitendinoſus.*

i The tendinous part of its beginning; which at k k is conjoined with the tendinous origin of the longer head of the biceps; from whence the beginning of this muſcle goes off.

l l The tendon, in which it ends; inſerted at m into the inner ſide of the tibia, juſt below the gracilis.

Add here Fig. 11. a—f.

The *ſyſtematic connexion* appears in Tab. II. ϱ in the leg; where the reſt of it is placed behind the gracilis π o, and the adductor magnus of the thigh. Then in Tab. I. α in the thigh; placed under the ſartorius Υ.

THE

Twenty-third Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

REMAINING MUSCLES OF THE LEG.

Add here Tab. XXII. 9. 10. 11. 12.

FIGURE I.

The popliteus.

a The tendon, by which it begins, and ariſes at b from a ſinus that is in the middle of the lower part of the outer ſide of the external condyle of the femur, juſt above the margin of that part which reſts on the tibia.

That part which uſually ariſes either from the outer edge of the ſemilunar cartilage of the knee, or from the broad ligament of the joint of the knee, could not be here repreſented.

c The tendinous portion.

d d The extremity, by which it inſerts itſelf into that part of the back ſide of the tibia, that is betwixt the root of its upper head and the oblique eminence, from whence the ſoleus ariſes: and the whole breadth by which it terminates is inſerted into the inner edge of the tibia, that is next the other leg.

The *ſyſtematic connexion* appears in Tab. VII. W X Y in the leg; covered by the biceps cruris R S in the thigh, and the outer head of the gemellus T in the leg, with the ſemimembranoſus G. Then in Tab. VI. Λ Ξ Π in the leg; covered alſo by the biceps ξ in the thigh, and the outer head of the gemellus Θ in the leg, and the ſemimembranoſus Γ, with the plantaris Σ, and the ſoleus A Ψ. Then in Tab V. Δ in the leg; covered by the biceps φ χ in the thigh, and the gemellus A Π in the leg.

FIGURE II.

The rectus of the leg, laterally.

a The principal tendon, by which it ariſes at b b from the upper part of the protuberance, that is in the fore edge of the os ilium.

c Another

c Another tendinous beginning, ariſing at d d from the upper and poſterior part of the edge of the acetabulum, and from the adjacent part of the capſule of the joint or upper head of the femur.

e The ſurface of the fleſhy belly, which continues for ſome way outwardly tendinous, from thoſe originations.

f The tendon, in which it ends, beginning its origination ſuddenly from the inner part of the muſcle at g.

h The place where the tendon is cut off.

Add here Fig. 3.

The *ſyſtematic connexion* appears in Tab. IX. λ—ο in the left leg; covered by the ſartorius p, and the extenſor vaginalis of the thigh q; and A B C in the right leg.

FIGURE III.

The rectus cruris, in its fore part.

a The principal tendon, by which it ariſes at b b from the inner part of the protuberance, that is in the anterior edge of the os ilium.

Near c is the other tendinous origination.

d That part of the fleſhy belly, which is for ſome length outwardly tendinous, from an excurſion of its tendinous originations.

e e The oblique declenſion of the fibres, in each ſide of the ſurface of the muſcle, from the middle downwards.

f The tendon, in which it terminates; and which inſerts itſelf at g g into the patella, and afterwards joins to the fore part of the ligament that belongs to the tibia and patella.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. I. T—X in the thigh; covered by the ſartorius H, and the extenſor vaginalis of the thigh M. Then in Tab. II. x, and ιϰλ in the thigh; covered by the iliacus internus y, and the gluteus minor u in the trunk.

i The ligament that joins the tibia and patella.

k k The place where the ſaid ligament ariſes below from the patella.

l l The place of its inſertion into the tibia, and all the way under the part m.

The *ſyſtematic connexion* appears in Tab. I. Δ Θ Λ in the leg. And in Tab. II. μ ν ξ in the leg.

Laterally its connexion appears in Tab. IX. D E F G in the right leg: and σ τ υ in the left leg.

FIGURE IV.

The ſartorius.

a The origin, which is outwardly tendinous, ſpringing at b from the anterior extremity of the ſpine of the os ilium, and from the next adjacent part of the anterior edge of that bone.

c The

c The tendon, in which it ends; inſerted at d d into the inner ſide of the tibia near the lower part of the protuberance, to which is fixed the ligament that joins the patella to the tibia.

The *ſyſtematic connexion* appears in Tab. I. H I Φ Ψ Ω in the leg and thigh; in part concealed behind the vaſtus internus Y.

Laterally its connexion appears in Tab. IX. K L M in the right leg: and p in the left leg.

In its back it appears in Tab. V. λ in the thigh.

FIGURE V.

The gracilis.

a The tendinous beginning, near the ſynchondroſis of the pubis, ſpringing from the ligament at b that ties together the ſaid ſynchondroſis. It alſo ariſes below the ſame from the edge of the os pubis.

c The impreſſion made in this muſcle by the adductor longus of the thigh.

d The tendon, in which it ends; inſerted at e into the tibia, juſt below the inſertion of the tendon of the ſartorius.

The *ſyſtematic connexion* appears in Tab. III. Ψ—B in the thigh. Then in Tab. II. Λ Ξ ο π in the thigh and leg; where in the end it is a little covered by the ſartorius ρ; and is partly hid behind the vaſtus internus Σ, and by the teſticle with its cremaſter muſcle p in the trunk. Then in Tab. I. B in the thigh; covered by the ſartorius H Φ Ψ, and hid behind the vaſtus internus Y, and by the teſticle with its cremaſter muſcle z in the trunk.

In its back part the connexion appears in Tab. VII. H I in the thigh, along its inner ſide, by the ſemimembranoſus C D E. Then in Tab. VI. ς τ in the thigh, below ſeated behind the ſemitendinoſus ς, and above concealed behind the tranſverſe muſcles of the perinæum h. g in the lower part of the trunk. Then in Tab. V. ι κ in the thigh; below ſeated behind the ſemitendinoſus ρ, and the ſartorius λ; above it lies behind the gluteus magnus γ in the buttock.

Laterally its connexion appears in Tab. IX. N O in the right leg.

e The ligament, by which the ſynchondroſis of the pubis is tied together in its fore part.

FIGURE VI.

The vaſtus internus and externus, in their poſterior part.

a a b The *vaſtus internus.*

a a Its origination from the oblique eminence, that ſtands out from below the leſs trochanter, from the bottom of the root of the neck of the femur to the long rough line or poſterior ſpine of the femur; and then continues to ariſe all the way from the inner ſide of the ſaid linea aſpera, thro' its whole extent.

b The portion that is tendinous from the whole beginning for a conſiderable way.

Add here Fig. 7. k—p.

The

The *ſyſtematic connexion* appears in Tab. VI. υ in the thigh; covered by the gracilis ς τ, the ſemimembranoſus φ φ χ, and the adductor magnus of the thigh ε. Then in Tab. V. μ in the thigh, covered by the fore-mentioned muſcles, and by the ſartorius λ.

c c d e The *vaſtus externus.*

c c Its origination from the outer part of the root of the trochanter major, and along the whole extent of the ſpine called *linea aſpera*, which ſtands out from the great trochanter almoſt to the outer condyle of the thigh bone.

It goes off partly likewiſe from the tendinous partition, that divides it from the ſhorter head of the biceps; which partition is here taken away.

d e The tendinous part. e the impreſſion made in this muſcle by the gluteus magnus.

Add here Fig. 7. a—i.

The *ſyſtematic connexion* appears in Tab. VI. β—δ in the thigh; where it is covered by the biceps muſcle of the leg θ λ μ ν. Then in Tab. V. ψ ω in the thigh; covered alſo by the biceps cruris σ τ υ φ, and it is alſo hid behind the gluteus magnus γ in the buttock.

FIGURE VII.

The vaſtus externus and internus, with the cruræus, in their fore part.

a b c d e f f f g h i i The *vaſtus externus.*

b c Its origin from the oblique eminence, that is in the fore part of the femur at the root of its neck betwixt the trochanters: and at c d from the outer part of the root of the great trochanter itſelf.

e A tendinous portion of its origin.

f f f g The conſiderable impreſſion that is made in this muſcle by the rectus extenſor of the leg.

g h The tendon, inſerted at i i into the edge of the patella, on its external ſide, and upper margin.

Add here Fig. 6. c c d e.

The *ſyſtematic connexion* appears in Tab. II. δ—θ in the thigh; covered by the rectus cruris ι κ. Then in Tab. I. P—S in the thigh; covered by the rectus cruris T V, and the extenſor vaginalis of the thigh M O.

Laterally its connexion appears in Tab. IX. η θ ι κ in the left leg.

k l m n n o p p The *vaſtus internus.*

l l The impreſſion made in this muſcle by the rectus cruris.

m Its origin from the oblique eminence, that is ſtretched out below the leſs trochanter at the root of the neck of the femur.

n n The part wherein the fleſh of this muſcle joins the tendon of the cruræus.

o The tendon, inſerted at p p into the margin of the patella, on its inner ſide. But above it joins the tendon of the vaſtus externus, and being connected with that, proceeds to the edge of the patella.

Add here Fig. 6. a a b.

The

The *ſyſtematic connexion* appears in Tab. II. Σ—α in the thigh; covered by the rectus cruris ι κ. Then in Tab. I. Y Z Γ in the thigh; covered by the rectus cruris T V, and the ſartorius H.

Laterally its connexion appears in Tab. IX. H I in the right leg: and π ϱ in the left.

q r s The *cruræus* or cruralis muſcle.

r The tendon, ariſing from the fore part of the fleſh. This tendon joins itſelf to the tendons of the vaſtus externus and internus, a little above the knee, and is then inſerted behind them into the upper part of the patella.

s The higheſt part of the origin of the rectus from the oblique eminence, that is in the fore part of the femur at the root of its neck, betwixt the two trochanters. It alſo continues to ariſe from more than the upper half of the whole length of the thigh bone, from its anterior and outer part.

The *ſyſtematic connexion* appears in Tab. II. β γ in the thigh; covered by the vaſtus externus δ—θ, and the vaſtus internus Σ—α; alſo by the rectus cruris ι κ. And what is there naked, in Tab. I. lies behind the rectus T in the thigh.

MUSCLES OF THE TENDINOUS VAGINA, OR SWATH OF THE THIGH.

FIGURE VIII.

The tenſor vaginæ femoris.

a The tendinous beginning, ariſing at b from the outer part of the anterior extremity of the ſpine of the os ilium.

c The extremity, from whence the tendinous part that joins it to the tendinous vagina or faſcia of the thigh is cut off.

The ſyſtematic connexion appears in Tab. I. M N O in the thigh; where it is covered by the ſartorius H I.

Laterally its connexion appears in Tab. IX. q r s in the left hip and thigh.

THE

THE

Twenty-fourth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE FOOT.

Add here the *peroneus tertius* Tab. XXV. Fig. 1. a θ ι κ.

FIGURE I.

The peroneus brevis, in its back part.

a Part of its origin from the fibula. Below the ſaid part it continues to ariſe from the ſpine, which terminates the outer edge or ſide of the fibula in its back part; ceaſing to ariſe from the ſaid ſpine near the outer ancle.

b c d The tendon. c The broader and thicker portion of the ſaid tendon, which bends itſelf round the ancle, where it is tied down by a ligament, which ſee in Tab. V. n in the leg: d the part which is alſo thicker and broader than the reſt, where it paſſes thro' the ſecond ligament near the upper part of the protuberance of the calcaneum; which ſee in Tab. V. o in the foot, and Tab. IX. F in the left foot.

e Its inſertion into the upper and back part of the root of the tubercle in the fifth metatarſal bone, at the outer part of its firſt head.

Add here Fig. 2.

The *ſyſtematic connexion* appears in Tab. VIII. M—R in the leg and foot. Then in Tab. VII. u—x in the leg and foot, covered by the peroneus longus m p q &c. Then in Tab. VI. I—M in the leg and foot; covered in like manner by the peroneus longus N P Q &c. Then in like manner in Tab. V. g—k in the leg and foot; covered by the peroneus longus l m.

FIGURE II.

The peroneus brevis, in its fore part.

a a Its origin from the outer ſide of the fibula, and below from the ſpine, which terminates the outer ſide of that bone in its back part.

It alſo ariſes in part from the tendinous vagina or covering of the leg, and from the continuation of that vagina that on one ſide lies betwixt the peroneus longus and brevis, and on the other ſide it has the long extenſor of the toes and the peroneus tertius.

Add here Fig. 1.

The *ſyſtematic connexion* appears in Tab. IV. ω Γ Δ in the leg. Then in Tab. III. M O in the leg; covered by the peroneus longus G L. Then in Tab. II. ω in the leg, covered by the peroneus longus φ ψ, and the long extenſor of the toes, with the peroneus tertius τ φ χ ψ.

Laterally its connexion appears in Tab. IX. B B C C D D E in the left leg, placed behind the peroneus longus Σ Ψ Ω.

Alſo in Tab. X. Fig. 20. y, and 21. A, and 22. a.

FIGURE III.

The peroneus longus, in its back part.

a One of its originations, ariſing at b from the lateral outer and fore part of the root of the upper head of the fibula.

c d e The other head, ariſing at c d e from more than the upper half of that part of the ſpine of the fibula which is in its outer ſide, and begins to project or ſtand out a little below its upper head: but from d to e it ariſes beneath.

f The tendon, whoſe firſt knot g bends behind the outer ancle: and the ſecond h is at the eminence in the outer ſide of the calcaneum: i the third, which is at the cubiform bone of the foot.

The ligaments, by which the tendon is tied down at the ancle, and at the protuberance of the calcaneum; ſee Tab. V. n and p in the leg and foot. Add A in the left foot of Tab. IX.

Add here Fig. 4. and 5.

The *ſyſtematic connexion* appears in Tab. VII. m—t in the leg and foot. Then in Tab. VI. N O—T in the leg and foot; covered alſo by the ſoleus Ω Ψ. Then in Tab. V. Θ l m m in the leg and foot; covered likewiſe by the ſoleus a b.

FIGURE IV.

The peroneus longus, in its fore part.

a The origin of its upper part from the lateral outer ſide of the fore part of the root of the upper head of the fibula; and at b from the adjacent fore part of the tibia.

c c d d The origin of the lower portion, from more than the upper half of that ſpine of the fibula, which is in its external ſide, not much below where its upper head begins to protuberate.

It alſo in part goes off from the tendinous covering of the leg, and from that branch of the ſaid covering, which lies betwixt the peroneus longus and the long extenſor of the toes.

e e The impreſſion made in this muſcle by the long extenſor of the toes.
f The lower ſinuated portion, in which the peroneus brevis is lodged.
g The tendon, ariſing from the outer part of the fleſh.
Add here Fig. 3. and 5.

The *ſyſtematic connexion* appears in Tab. III. G—L in the leg; where it is partly covered by the peroneus brevis M. Then in Tab. II. $\phi\ \chi\ \psi$ in the leg; covered by the peroneus brevis ω, and the long extenſor of the toes A. Then in Tab. I. $o\ \pi\ \varrho$ in the leg; covered in like manner by the ſhort peroneus σ, and the long extenſor of the toes $\tau\ \upsilon$.

Laterally its connexion appears in Tab. IX. Σ—Ω in the left leg; placed behind the ſoleus ω.

FIGURE V.

The peroneus longus, in the ſole of the foot.

a The tendon, in which b denotes a knot that is placed at the protuberance of the calcaneum, which is in its outer ſide: and c denotes a more conſiderable knot, where it bends round the eminence that is in the lower part of the cubiform bone of the tarſus, a little after the ſinus of the ſaid bone which is before its eminence.

d Its extremity, inſerted into the bottom and back of the moſt protuberant part of the metatarſal bone belonging to the great toe.

e The portion that goes off from the tendon, and which paſſing round the cubiform bone of the tarſus, divides into two parts f. g, inſerted at h. i into the great cuneiform bone of the foot.

k Another portion going off from the tendon, inſerted at l into the ſecond metatarſal bone.

For the manner in which it is confined in the ſinus of the cubiform bone by its ligament, ſee in Tab. X. Fig. 21. N O.

Add here Fig. 3. and 4.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. b—i. Then in Fig. 21. B C D, and betwixt r and l; where it lies under the ligament N O; and covered by the adductor of the great toe l m, and ſhort flexor o p r. Then in Fig. 20. $z\ \alpha\ \beta$; placed behind the ſame muſcles as in Fig. 21. and behind the long flexor of the toes and lumbricales. And what appears naked in Fig. 20. the ſame is in Fig. 19. covered by the abductor of the little toe A B.

FIGURE VI.

The tibialis anticus.

a a Its origin from the tibia, in its uppermoſt end a little before the origin of the long extenſor, whence its origination takes up the whole outer flat ſide of the tibia, extending in breadth from its head along its anterior ſpine as far as the middle of the tibia; and is alſo partly attached to the adjacent interoſſeus ligament of the leg. But from the ſaid middle it ariſes for a long way according

to the length of the leg from the ſaid interoſſeus ligament, and eſpecially from the tibia near the ſaid ligament; and ſo it goes on for about two thirds of the length of the tibia.

b Part of the tendinous covering of the leg, from the inner ſurface of which the tibialis here ariſes: c c the place where the ſaid covering is cut off, where the muſcle no longer continues to ariſe from it.

It ariſes alſo from that branch of the ſaid covering, that is placed betwixt this tibialis muſcle and the long extenſor of the toes.

d The tendon, in which it ends. The manner in which the ſaid tendon goes under the horns of the ligament, by which the tendons are confined in the bend of the foot as far as the end of the leg, ſee in Tab. I. r t in the leg and foot: and in Tab. IX. ı x in the right foot, and y z in the left.

Add here Fig. 7.

The *ſyſtematic connexion* appears in Tab. I. n—p in the leg and foot; where in part it is covered at the bottom by the abductor of the great toe A.

Laterally its connexion appears in Tab. IX. U V W in the left foot: and η θ in the right foot.

FIGURE VII.

The bifurcated end of the tibialis anticus, in the ſole of the foot.

a One of the horns of the end, inſerted at b into the round and ſmooth ſurface in the inner and lower part of the cuneiform bone, and into the edge of the firſt metatarſal bone.

d The other and ſmaller head, inſerted at d juſt before the preceding into the eminence that is in the head of the firſt metatarſal bone of the great toe, at its inner ſide, and almoſt in the middle.

Add here Fig. 6.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. k. l. Then in Fig. 21. ζ. η; where in part it is covered by the ſhort flexor of the great toe y. Then it appears in like manner at Fig. 20. i. k; in part covered by the ſhort flexor of the great toe p. And what there appears naked, is in Fig. 19. covered by the abductor of the great toe F.

FIGURE VIII.

The ſoleus, in its fore part.

a a b c c Its origin from the upper head of the fibula, and from a large part of the ſpine, which ſtands out below its head in the back part of the bone.

d e f f Its origin, at d e from the eminence of the tibia which is in its back part, and ſtands out obliquely below from its upper head; and where that eminence ends, it continues to ariſe at e f f from the poſterior margin of the inner ſpine of the tibia, beyond the middle of the ſaid length of the bone.

g. h The tendinous ſurface running out a conſiderable way.

i i The tendinous portion, which like a partition divides the fleſhy part. But it begins internally almoſt in the beginning of the muſcle itſelf.

k k. l l Fleſhy fibres which deſcending from each ſide, run together and join the tendinous partition i i.

m. n The two points in which the fleſh of each ſide terminates; and of which the inner, marked n, is thicker, larger, and runs out longer.

I have alſo ſeen theſe two fleſhy parts joined in one at their ends; ſo as to form a ſingle tip or point, but larger, in their end.

o The tendon, by which the ſoleus is inſerted into the calcaneum at p, from whence it is cut off.

q The tendinous ſurface, from whence the tendon on that ſide begins.

Add here Fig. 9.

The *ſyſtematic connexion* appears in Tab. I. ξ ε η in the leg; where the reſt of it is covered by the peroneus longus ο π ρ, and by the long flexor of the toes θ ×, with the tibialis poſticus λ: to theſe add ν in the ſame figure. Alſo in Tab. II. υ N P in the leg; covered in the ſame manner by the peroneus longus φ ψ, and the long flexor of the toes Q S, with the tibialis poſticus V: to which add Y.

r r r r The tibia or great bone of the leg cut off from before the muſcle.

s s The fibula or leſs bone of the leg cut off in like manner.

FIGURE IX.

The ſoleus, in its back part.

a Its origin from the back part of the upper head of the fibula.

b A tendinous part of its beginning, which ariſes from the tibia c c. But it ſprings from that eminence of the tibia, which ſtands out obliquely from the back part of its upper head.

d d The tendinous ſurface, whence the tendon of its back part ariſes.

e e The mark which reſembles an indentation, where the fleſhy part is divided within by a tendinous partition.

f The tendon, in which it ends.

g g The tendon of the gemellus here cut off, where it firſt joins itſelf to the tendon of the ſoleus. It joins that tendon in an oblique courſe, ſooner on the outer ſide of the leg.

h The tendo Achillis, inſerted at i i into the poſterior and lower protuberant part of the tubercle of the calcaneum, which forms the heel.

Add here Fig. 8.

The *ſyſtematic connexion* appears in Tab. VI. Ω—E in the leg; where it is partly covered by the plantaris Φ. Then in Tab. V. a a b in the leg; covered by the gemellus Λ—Φ.

Laterally its connexion appears in Tab. IX. ω Δ Θ in the left leg; covered by the gemellus φ ψ; and Γ Δ in the right leg; covered by the gemellus W X, and the plantaris Λ.

FIGURE

FIGURE X.

The gemellus.

a b c c d e e f The inner head, beginning by two tendinous origins b. d, of which

b the lower tendon is thick and ariſes at c c juſt above the back part of the inner condyle of the femur, near its inner ſide.

d The upper thin head, which ariſes at e e from the edge of the back part of the femur, near its inner ſide, juſt above its lower origin.

f The tendinous ſurface, formed by an excurſion of the tendinous ſurface.

g h i i k The outer head, ariſing with a tendinous beginning h, from the oblong eminence i i that is in the outer ſide of the femur, near its back part, juſt above the ſinus from whence the popliteus ariſes.

k The tendinous ſurface, which the tendinous origin forms by an excurſion.

l m The two points or tips in which the fleſh ends.

n The tendon, that joins the tendon of the ſoleus.

The *ſyſtematic connexion* appears in Tab. V. Λ—Φ in the leg; lying under the outer head of the bicipital muſcle of the leg τ φ in the thigh; and within the ſemimembranoſus ν ξ ο. Alſo in Tab. VI. Δ and Θ in the thigh: and in Tab. VII. T and U in the thigh.

Moreover its connexion appears in its fore part in Tab. I. β γ δ ν ν in the leg. And laterally in Tab. IX. φ χ ψ Θ in the left leg: and V—Y in the right.

o The tendon of the ſoleus, here cut off at p.

q The tendo Achillis, inſerted at r r into the poſterior and moſt eminent part of the protuberance of the calcaneum, that forms the heel.

FIGURE XI.

The plantaris.

a a Its origin from the root of the outer condyle of the femur, near the inner part of the origin of the gemellus.

b The tendon, in which it ends; inſerted into the inner ſide of the calcaneum, near the end of the tendo Achillis: which ſee in Tab. IX. Ξ in the right foot.

The *ſyſtematic connexion* appears in Tab. VI. Σ Φ in the thigh and leg; at its origin ſeated behind the outer head of the gemellus Θ, and of the bicipital muſcle of the leg λ; in its end behind the tendo Achillis D. Then in Tab. V. Γ c in the thigh and leg; placed likewiſe behind the gemellus Λ—Φ, and the biceps of the leg τ; in the end behind the tendo Achillis Ψ. Moreover in Tab. VII. V in the thigh.

In the fore part its connexion appears in Tab. II. T in the leg. And in Tab. I. μ in the leg. And laterally its connexion appears in Tab. IX. Λ Ξ in the right foot: and Π in the left.

FIGURE

FIGURE XII.

The tibialis poſticus, in its back part.

a a Its origin from the tibia, from whence it ariſes outwardly tendinous at b b. It ariſes from the flat ſide of the tibia at the root of that part to which the fibula is jointed, and is in ſome meaſure extended downwards over that part which lies next the fibula.

c The origin from the fibula, from whoſe whole flat ſurface it continues to ariſe for more than two thirds of its length, extending from beneath the upper head of that bone towards the tibia: ſee Tab. IV. υ υ in the leg. It ariſes partly alſo from the ligament that is fixed betwixt the bones of the leg, where they are moſt apart from each other.

d d The tendinous ſurface of that part, which ariſes from the fibula.

e f The tendon, ariſing at e from the fleſhy part, and paſſing behind the inner ancle at f, where it is thicker and harder. How it is retained there by the ligament, ſee in Tab. V. e in the leg, and in Tab. I. u in the leg and foot, and in Tab. IX. δ in the right foot.

Add here Fig. 13. and 14.

The *ſyſtematic connexion* appears in Tab. VIII. E—L in the leg. Then in Tab. VII. Z—d e in the leg; behind the popliteus W Y, and the long flexor of the great toe h, and the long flexor of the toes f. Then in Tab. VI. G in the leg; where the reſt is covered by the ſoleus Ω &c. So alſo in Tab. V. d in the leg.

FIGURE XIII.

The tibialis poſticus, in its fore part.

a The tendon going to the inner ancle, behind which it bends and goes along the inner ſide of the foot, where it is confined by a ligament, ſee x in the foot of Tab. I. and ζ in the right foot of Tab. IX.

c The principal part of the tendon, inſerted into the lower and moſt eminent part of the thick and rough protuberance, that ſtands out from the navicular bone, in the inner ſide of the foot.

d A thin portion running out from the tendon, and inſerted at e into the lower part of the firſt cuneiform bone, near its poſterior edge.

Add here Fig. 12. and 14.

The *ſyſtematic connexion* appears in Tab. IV. π—ψ in the leg and foot. And in Tab. III. P—R S—U in the leg and foot. Then in Tab. II. F V W X in the leg and foot; covered by the long extenſor of the toes A, and the proper extenſor of the great toe H I. Then in Tab. I. λ y in the leg and foot; where, what appears of it naked in Tab. II. lies behind the tibialis anticus n in the leg: the extremity being covered by the abductor of the great toe A in the foot.

Laterally its connexion appears in Tab. IX. β β γ in the right foot.

FIGURE

FIGURE XIV.

The tendon of the tibialis poſticus, in the ſole of the foot.

a The place where the tendon is cut off.

b The knot of this tendon, which lies cloſe upon the head of the aſtragalus, and on the lower and back part of the protuberance in the navicular bone: only the ligament lying betwixt which ſuſtains the head of the aſtragalus, and paſſes along the ſole of the foot, from the calcaneum and navicular bone.

c The principal part of the tendon here inſerted beneath the navicular bone, into the lower and moſt eminent part of the thick rough protuberance, that ſtands out from that bone on the inner ſide of the foot.

d d The thin expanded portion, inſerted in the lower and back part of the firſt cuneiform bone.

e The thin portion, which is inſerted at f into the bottom and back part of the protuberance in the third cuneiform bone: and it runs on at g to the ſecond metatarſal bone, and at h to the third; and inſerts itſelf into the lower part of the head of the former, on that ſide which is next the little toe. It alſo gives off the portion i to the ſhort flexor of the great toe, which portion is cut off at k.

l Another portion going off from the tendon, and dividing into two m. o: of which m is inſerted into the lower part of the calcaneum at n, near the cuboide bone, near that edge which is next the aſtragalus: the other part o is inſerted at p into the lower part of the cuboide bone, near the poſterior edge of the third cuneiform bone.

Add here Fig. 13. and 12.

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. E F G H I; where it is in part covered by the ſhort flexor of the great toe p, the adductor of the great toe l k, and by the tendons of the long peroneus. Then in Fig. 20. f g h; covered by the tendon of the long flexor of the toes A B, and by the head that joins it in the ſole of the foot C D, with the tendon b of the long flexor of the great toe. Afterwards in Fig. 19, behind the abductor of the great toe.

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Twenty-fifth Anatomical Table

OF THE

HUMAN MUSCLES

EXPLAINED.

MUSCLES OF THE SMALL TOES.

FIGURE I.

The long extenſor of the toes with the third peroneus, laterally.

a The *long extenſor of the toes* conjoined *with the third peroneus* into one.

b b c c The firſt part of its origin, ſpringing from the root of the upper head of the tibia at b b, juſt before the upper head of the fibula: and at c c from the anterior ſpine of that head of the fibula.

d Part of the tendinous vagina or ſwath of the leg, from the lower or inner ſurface of which the fleſh of this part of the origin of the muſcle ſprings; and is cut off at e e, where the fleſh no longer goes off from it.

It ariſes alſo from the production which the ſaid tendinous ſwath ſends in betwixt this extenſor and the tibialis anticus.

f g h h The other part of the beginning, which from its origin is tendinous at g, and ariſes from the anterior ſpine of the fibula h h, and from the margin of it that lies next the tibia.

i i The third portion of its origin, which for the moſt part is tendinous from its beginning at i i, and ariſes at k k from the anterior ſpine of the fibula, and from the flat ſide in which that ſpine terminates in its lower part. Part of this extenſor belonging to the peroneus, ariſes alſo from the production of the tendinous ſwath of the leg.

l The tendon of the long extenſor of the toes, which divides itſelf into four tendons m. n. o. p, running over the back of the foot to the four ſmall toes.

The manner in which it runs under the tranſverſe ligament at the extremity of the leg and foot, ſee in Tab. IX. X in the left foot; and in Tab. I. q in the foot.

q The tendon of the long extenſor running over the back of the little toe. r the extremity of that tendon, inſerted into the oblong tranſverſe tubercle that is in the poſterior head of the ſecond bone or phalanx of this toe, in its upper ſide. s t portions of the tendon running to the third bone and ending in the common extremity u, inſerted at v into the upper part of the firſt.

w The aponeuroſis, which goes from this ſide to the tendon q; and is produced from the abductor of the little toe, from whence it is here cut off at x.

The aponeuroſis, that joins to the other ſide of this and the reſt of the tendons, ſee in Tab. I. h in the foot: and in Tab. II. q in the foot: and Tab. III. u in the foot. And the ſaid aponeuroſis ariſes partly from the capſule of the joint of the toe with the metatarſus, in part from the firſt interoſſeus and the lumbricalis, and partly from the ſide of the bone of the firſt phalanx.

y. y. y The cut tendons of the ſhort extenſor of the toes.

z α The common tendon of the long and ſhort extenſor. z the portion that is produced by the ſhort extenſor; α that produced by the long extenſor: and betwixt them is a mark of diviſion. β the end inſerted into the bone of the ſecond order, as that of r into the little toe. γ. δ portions running to the third bone, of which the one γ is from the ſhort extenſor; the other δ from the long extenſor. ε the common end of them inſerted at ζ into the upper part of the poſterior head of the laſt bone.

η The aponeuroſis, which from this ſide joins that part of the common tendon that is formed by the tendon of the ſhort extenſor. This goes off from the ſecond interoſſeus of the ſame toe and from the capſule of the joint.

The ſame is obſervable alſo in the ſecond and third toe.

θ ι κ The tendon of the third peroneus, here ariſing from the fleſh at θ, and inſerted at κ into the upper part of the root of the poſterior head of the fifth metatarſal bone, near its juncture with the fourth, and thence is continued along the ſpine in the upper ſide of the ſaid fifth metatarſal bone.

The manner how it runs under the ligament at the extremity of the leg and foot, ſee in Tab. IX. X in the left foot, and Tab. I. q in the foot.

The *ſyſtematic connexion* appears in Tab. IX. G—R, and f—m in the left extremity; partly covered by the long peroneus Σ, and the ſhort peroneus B C.

In the fore part its connexion appears in Tab. II. A—E and m—q in the leg and foot; partly covered by the extenſor proper to the great toe H I. Then in Tab. I. τ—h in the leg and foot, placed in part behind the extenſor proper to the great toe i, and the tibialis anticus n.

Moreover in Tab. III. n. o. p. q r s t u in the feet. And in Tab. V. r z s in the foot. In Tab. VI. U V in the foot. And in Tab. VII. γ γ in the foot. And in Tab. IX. ο in the right foot.

FIGURE

FIGURE II.

The external or bicipital interoſſei of the foot, in their upper ſide.

a b b c d d e f The *ſecond interoſſeus of the fourth toe.*

a The thicker head, ariſing at b b from more than the poſterior half of the inner ſide of the fifth metatarſal bone, that is oppoſite the fourth.

c The ſmaller head, ariſing at d d from the back part of the lower ſide of the fourth metatarſal bone, that lies next the fifth bone.

e The tendon, inſerted at f into the lower part of that ſide of the poſterior head of the firſt bone of the fourth toe, that lies next the little toe.

Add here Fig. 3. a—e.

The *ſyſtematic connexion* appears in Tab. IV. Π in the foot. Then in Tab. VIII. S in the foot: and in Tab. IX. q in the left foot; covered by the tendon O of the long extenſor of the toes.

g h h i k k l m The *ſecond interoſſeus of the third toe.*

g The thicker head, ariſing at h h from more than the poſterior half of the ſide of the fourth metatarſal bone, that lies next the third.

i The ſmaller head, ariſing at k k from the poſterior part of the lower margin of the ſide of the third metatarſal bone, that lies next the fourth.

l The tendon, inſerted at m in the lower part of that ſide of the poſterior head of the firſt bone of the third toe, that lies next the fourth toe.

Add here Fig. 3. f—k.

The *ſyſtematic connexion* appears in Tab. IV. Ξ in the foot. Then in Tab. III. betwixt k and l in the left foot: covered by the ſhort extenſor of the toes k. In Tab. II. covered alſo by the tendon of the long extenſor of the toes A E that belongs to the fourth toe. Then in Tab. VIII. T in the foot: and in Tab. IX. p in the left foot; covered by the ſhort extenſor of the toes d, and by the tendon of the long extenſor P.

n o o p q q r s The *ſecond interoſſeus of the ſecond toe.*

n The thicker head, ariſing at o o from more than the poſterior half of the ſide of the third metatarſal bone, that lies next the ſecond.

p The thinner head, ariſing at q q from the poſterior half of the ſide of the ſecond metatarſal bone, that lies next the third, and particularly from the lower margin of the oblong eminence that is extended along that ſide.

r The tendon, inſerted at s into the lower part of that ſide of the poſterior head of the firſt bone of the ſecond toe, that lies next the third toe.

Add here Fig. 3. l—q.

The *ſyſtematic connexion* appears in Tab. IX. Λ in the foot. Then in Tab. III. betwixt i and k in the left foot, covered by the ſhort extenſor of the toes i. In Tab. II. it is alſo covered by the tendon of the long extenſor of the toes A E belonging to the third or middle toe. Then in Tab. VIII. V in the foot: and in Tab. IX. o in the left foot; covered by the ſhort extenſor of the toes c, and the tendon of the long extenſor Q.

t u u v w x y z α The *firſt interoſſeus of the ſecond toe.*

t The thicker head, ariſing at u from more than the poſterior half of that ſide of the ſecond metatarſal bone, that lies next the firſt bone. v the tendinous part of its beginning.

w The thinner head, ariſing with a tendinous beginning x from the upper part of the tip of the larger cuneiform bone at y, and is inſerted into the firſt and ſecond metatarſal bone.

z The tendon, inſerted at α into the lower part of that ſide of the poſterior head of the firſt bone of the ſecond toe, that lies next the great toe.

But the fibres of each head of this muſcle meet together at acute angles.

Add here Fig. 3. r—w.

The *ſyſtematic connexion* appears in Tab. IV. ⊙ in the foot. Then in Tab. III. m m in the foot; covered by the ſhort extenſor of the toes f h. Then in Tab. II. h in the foot; covered by the ſhort extenſor of the toes i k, and by the tendon of the extenſor proper to the great toe I K. And ſo in Tab. I. at L in the foot; and in Tab. IX. n in the left foot; covered by the ſhort extenſor of the toes a b, and by the tendon of the extenſor proper to the great toe S.

FIGURE III.

The external bicipital or interoſſei muſcles of the toes, viewed in their lower part.

a b c d e The *ſecond interoſſeus of the fourth toe.*

b Part of the tendinous beginning.

c Its origin from the poſterior head of the fourth metatarſal bone, that lies next the fifth.

It alſo ariſes from the ligament that confines the tendon of the long peroneus in the ſole of the foot: ſee Tab. X. Fig. 21. U P.

d The tendon, inſerted at e into the lower part of that ſide of the poſterior head of the firſt bone of the fourth toe, that lies next the fifth.

Add here Fig. 2. a—f.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. βγδ; covered by the interoſſeus of the little toe ε. Then in Fig. 21. U V; covered by the interoſſeus of the little toe S, the tranſverſalis of the foot f g. Then in Fig. 20. μν; covered by the interoſſeus of the little toe λ, the tranſverſalis of the foot ρ, and the fourth lumbricalis Z, with the tendon of the long flexor of the toes M Q. Then in Fig. 19. X Y; covered by the interoſſeus of the little toe Z, the tranſverſalis of the foot g, and the fourth lumbricalis c, and the tendon of the long and ſhort flexor of the foot V, with the ſhort flexor of the toes T. Then in Fig. 18. m m; covered by the interoſſeus of the little toe o, the tranſverſalis of the foot i, the fourth lumbricalis h, and the tendon of the ſhort flexor of the toes, that belongs to the little toe; alſo by the middle portion of the aponeuroſis plantaris, belonging to the little toe G.

Its connexion is alſo ſeen in Tab. VIII. Y in the foot.

f g h i k The ſecond interoſſeus of the third toe.

g The tendinous part of its beginning.

h Its origin from the root of the poſterior head of the third metatarſal bone, where it lies next the fourth.

i The

i The tendon, inſerted at k into the lower part of the poſterior head of the firſt bone of third toe, that lies next the fourth toe.

Add here Fig. 2. g—m.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. v w x; covered by the firſt interoſſeus of the fourth toe y. Then in Fig. 21. Y Z; covered by the firſt interoſſeus of the fourth toe W, the tranſverſalis of the foot f, and the adductor of the great toe k. Then in Fig. 20. o; covered by the tranſverſalis of the foot ϱ, the third lumbricalis X, and the tendons O. P of the long flexor of the toes, and the adductor of the great toe t. Then in Fig. 19. i; placed under the ſame parts: and Fig. 18. l; placed under the ſame, and under the middle portion E of the aponeuroſis plantaris.

l m n n o p q The *ſecond interoſſeus of the ſecond toe.*

m The tendinous part of the beginning.

n n Its origin from the ſecond metatarſal bone, before the root of its poſterior head, that lies next the third metatarſal bone.

o Its origin from the third metatarſal bone, near the root of its poſterior head, next the ſecond metatarſal bone.

p The tendon, inſerted at q into the lower part of the ſide of the poſterior head of the firſt bone of the ſecond toe, next the third or middle toe.

Add here Fig. 2. n—s.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. p q r; placed under the firſt interoſſeus of the third or middle toe s. Then in Fig. 21. c d; placed under the firſt interoſſeus of the middle toe a, under the tranſverſalis of the foot f, and the abductor of the great toe k. Then in Fig. 20. π; covered by the tranſverſalis of the foot ϱ, the ſecond lumbricalis W, and the tendon of the long flexor of the toes N. Then in Fig. 19. k, and Fig. 18. k; covered by the ſame parts.

r s t u v The *firſt interoſſeus of the ſecond toe.*

r The thicker head.

s. t Tendinous parts of the origin.

u Its origination from more than the poſterior half of that ſide of the ſecond metatarſal bone that lies next the firſt.

v The tendon, inſerted at w into the lower part of that ſide of the poſterior head of the firſt bone of the ſecond toe, that lies next the great toe.

Add here Fig. 2. t—α.

The *ſyſtematic connexion* appears in Tab. X. Fig. 22. m n o. Then in Fig. 21. e; covered by the tranſverſalis of the foot f, and the abductor of the great toe k l. Then in Fig. 20. betwixt the firſt lumbricalis, the metatarſal bone, and the firſt bone of the ſecond toe; covered as before in Fig. 21. and alſo by the firſt lumbricalis V. So likewiſe in Fig. 19. and 18.

FIGURE IV.

The inner interoſſei of the foot, viewed in their lower part.

a b b c d e The *interoſſeus of the little toe.*

b b Its origin from the back part of the lower edge of that ſide of the fifth metatarſal bone, that lies next the great toe.

c The

c The tendinous part of its origin.

The manner how it arifes from the ligament that confines the tendon of the long peroneus in the fole of the foot, fee in Tab. X. Fig. 21. S N.

d The tendon, inferted at e into the lower part of that fide of the pofterior head of the firft bone of the fifth or little toe, that lies next the great toe.

The *fyftematic connexion* appears in Tab. X. Fig. 22. ε ζ η. Then in Fig. 21. S T; covered by the fhort flexor of the little toe Q, and the tranfverfalis of the foot f h. Then in Fig. 20. λ; covered by the fhort flexor of the little toe ι, and the tranfverfalis of the foot ρ, by the tendon M Q of the long flexor of the toes, and the fourth lumbricalis Z. Then in Fig. 19. Z; covered by the fhort flexor of the little toe a, and the tranfverfalis of the foot g h, and the tendon V of the fhort flexor of the toes, with the tendon of the long flexor that belongs to the little toe, and the fourth lumbricalis c. And fo in Fig. 18. o; covered as before.

Moreover in Tab. VII. it appears at ε in the foot.

f g g h i k The *firft interoffeus of the fourth toe.*

g g Its origin from the back part of the lower edge of that fide of the fourth metatarfal bone, that lies next the great toe.

h The tendinous part of its beginning.

The manner how it further arifes from the ligament that confines the tendon of the long peroneus in the fole of the foot, fee in Tab. X. Fig. 21. W P.

i The tendon, inferted at k into the lower part of that fide of the pofterior head of the firft bone of the fourth toe, that lies next the great toe.

The *fyftematic connexion* appears in Tab. X. Fig. 22. y z α; covered by the fecond interoffeus of the fourth toe β. Then in Fig. 21. W X; covered by the fecond interoffeus U, the tranfverfalis of the foot f g, and the adductor of the great toe k. Then in Fig. 20. ξ; covered by the fecond interoffeus μ, the tranfverfalis of the foot ρ, the adductor of the great toe t, the fourth lumbricalis Z, and the third X, with the tendons of the long flexor of the toes M Q and P. Then in Fig. 19. betwixt the third lumbricalis d, the metatarfal bone, and the firft bone of this fourth toe: alfo betwixt the fourth lumbricalis c, the tendon U, and the tranfverfalis of the foot g; and covered by the fame parts as in Fig. 20. with the addition of the fhort flexor of the toes T R. Then in Fig. 18. betwixt the third lumbricalis g, the metatarfal bone, and the firft bone of this fourth toe: alfo betwixt the fourth lumbricalis h, the tranfverfalis of the foot i, and the portion F of the aponeurofis plantaris; covered by the parts as before in Fig. 19. and by the portion F of the aponeurofis plantaris.

l m m n o p The *firft interoffeus of the third toe.*

m m Its origin from the pofterior part of the lower edge of that fide of the third metatarfal bone, that lies next the great toe.

n the tendinous part of its origination.

o The tendon, inferted at p into the lower part of that fide of the pofterior head of the firft bone of the third toe, that lies next the great toe.

The *fyftematic connexion* appears in Tab. X. Fig. 22. s t u; covered by the fecond interoffeus of this third toe u. Then in Fig. 21. a b; covered by the fecond interoffeus Y, and the tranfverfalis of the foot f, with the adductor of the great toe k. Then in Fig. 20. betwixt the fecond lumbricalis W, the metatarfal

metatarſal bone, and the firſt bone of the third toe; covered as before in Fig. 21. and by the ſecond lumbricalis W. So likewiſe in Fig. 19 betwixt the ſecond lumbricalis e, the metatarſal bone, and the firſt of the third or middle toe. And in Fig. 18. betwixt the ſecond lumbricalis f, and 1ſt bone of the 3d toe.

FIGURE V.

The ſhort flexor of the toes.

a Its origin from the lower part of the calcaneum, near the root of the protuberance that forms the heel: from whence it ariſes outwardly tendinous at b; in which part it coheres for a conſiderable way with the middle aponeuroſis plantaris, in ſuch a manner that it ſeems to ariſe from thence.

c The portion, belonging to the ſecond toe. d its tendon, having a ſlit in it marked e, and afterwards dividing into two tails f. g: which cohere together again by a thinner portion h, and are at laſt inſerted at i k into the tubercles, that are fixed at the lower part of each margin of the ſecond bone of this toe, before the head of its firſt bone.

l The portion, belonging to the third toe. m its tendon, terminating like the tendon d of the firſt portion.

n The portion belonging to the fourth toe. o its tendon, terminating like the tendon d.

p The tendon, belonging to the little toe, and terminating like the tendon d.

For the ligaments by which the tendons are confined, ſee Tab. X Fig. 18. s. t.

The *ſyſtematic connexion* appears in Tab. X. Fig 19. L—V; where part of the tendons lies under thoſe of the long flexor of the toes l, &c. Then in Fig. 18. v w w. &c. where the tendons are placed alſo under thoſe of the long flexor x. &c. but the reſt of the muſcle is covered by the middle aponeuroſis plantaris A B C D E F G.

Moreover in Tab. IX. it appears at χ ψ in the right foot: and y z in the left foot. And in Tab. II c d in the foot. Tab. I. E in the foot. Tab. VI. Y and ϑ in the foot. And Tab. V. ε in the foot.

FIGURE VI.

The long flexor of the toes, in its back part.

a The tendinous part of its uppermoſt origin, ariſing at b from the back part of the tibia, below the middle of the long eminence, from whence the ſoleus ariſes.

c Another tendinous part of its origin, ariſing at d d from the back part of the tibia, and at e from the next adjacent part of the interoſſeus ligament, that is betwixt the tibia and fibula. This tendinous portion with the adjacent fleſhy portion f, are placed under the tibialis poſticus.

g The tendon.

The ligament, by which it is confined near the inner ancle, ſee in Tab. V. e in the leg and foot.

Add

Add here Fig. 7. and Fig. 8. a—s.

The *ſyſtematic connexion* appears in Tab. VII. f g in the leg; covered by the long flexor of the great toe h, and by the popliteus Y. Then in Tab. VI. F in the leg; covered by the ſoleus Ω, &c. And in Tab. V. betwixt the tendon d and ψ in the left foot, alſo betwixt d and the tendon of the plantaris in the right foot.

FIGURE VII.

The long flexor of the toes, in its fore part.

a a Its origin from the edge of the tibia.

b c The tendon; ariſing here at b from the fleſh, and running along the inner ſide of the ancle at c to the ſole of the foot.

The *ligament*, by which it is confined near the ancle and at the eminence of the calcaneum, that ſuſtains the head of the aſtragalus, (under which eminence it goes along the ſide of the foot) ſee in Tab. I. u in the leg and foot: and in Tab. IX. δ in the foot.

d The fleſhy head, that joins the long flexor in the ſole of the foot. e e its origin from inner ſide of the protuberance of the calcaneum, that forms the heel.

Add here Fig. 6. and Fig. 8. a—s.

The *ſyſtematic connexion* appears in Tab. III. X—c in the leg and foot; covered by the tendon of the tibialis poſticus S—U. So alſo in Tab. II. Q R R S Z a b in the leg and foot; covered in the ſame manner by the tendon of the tibialis poſticus V V. And in Tab. I. θ ι ι x z in the leg and foot, covered in like manner by the tendon of the tibialis poſticus λ y y, and the abductor of the great toe A B.

Laterally its connexion appears in Tab. IX. Ψ Ω Ω α α in the right foot.

FIGURE VIII.

The long flexor of the toes, with the lumbricalis and tendon of the long flexor of the great toe, in the ſole of the foot.

a b The *tendon of the long flexor of the toes.* b the knot where the tendon rubs againſt the calcaneum.

c The portion, by which the tendon of the long flexor of the toes, joins itſelf to the tendon of the long flexor of the great toe.

d e f g g h i The fleſhy head, that joins the long flexor of the toes in the ſole of the foot, compoſed of two portions at its origination e and f: of which

e the one part ariſes at g g from the bottom of the calcaneum before the inner and lower part of the tubercle, that forms the heel. The continuation of this part, ſee in Fig. 7. d e e.

f The other part, begins by a thin tendon h, from the lower part of the calcaneum at i, before the lower and outer part of the protuberance that forms the heel.

k. l. m. n The

k. l. m. n The four tendons, into which the tendon of the long flexor of the toes, with the head that joins it, divides or splits itself. Which tendons belong to the four small toes o. p. q. r, and being slit or divided according to their length, they are inserted at s. s. s. s into the 3d or last bones of the toes.

The ligaments, by which those tendons are tied down or confined to the bones of the toes, see in Tab. X. Fig. 18. s. t. u.

Add here Fig. 7. and 6.

The *systematic connexion* appears in Tab. X. Fig. 20. A—R, where the lumbricales S. W. X. Z cover part of the tendons. Then in Fig. 19. l m, and on that side of the short flexor of the toes that lies next the great toe; and the rest of it is covered by the lumbrical muscles c. d. e. f, and the short flexor of the toes L—V, the abductor of the little toe A B, and the abductor of the great toe F G. Then in Fig. 18. x. &c. on that side of the tendons of the short flexor of the toes v, that is next the great toe, and betwixt the horns of those tendons w w: the rest being covered by the same muscles as in Fig. 19. and also by the middle aponeurosis plantaris D E F G.

Moreover in Tab. VII. its connexion appears at $\delta\ \zeta\ \theta$ in the foot. And in Tab. VI. below X, and δ in the foot. Laterally in Tab. IX. y. z in the foot.

t u v The *first lumbricalis*, arising at u from the first and second tendons of the long flexor of the toes. v the tendon, in which it ends.

Its connexion appears in Tab. X. Fig. 20. S T V. Then in Fig. 19. f; covered by the short flexor of the toes N O R. Then in Fig. 18. e; covered by the middle aponeurosis plantaris A D.

w x The *second lumbricalis*. x the tendon, in which it ends.

The *systematic connexion* of it appears in Tab. X. Fig. 20. W; covered by the first lumbricalis S, and the third X. Then in Fig. 19. e; covered by the first lumbricalis f, and the short flexor of the toes R S. Then in Fig. 18. f, covered by the middle aponeurosis plantaris A D E.

y z α The *third lumbricalis*, arising at z from the second and third tendon. α its tendon.

The *systematic connexion* appears in Tab. X. Fig. 20. X Y. Then in Fig. 19. d; covered by the short flexor of the toes R S T U. Then in Fig. 18. g; covered by the middle aponeurosis plantaris A E F.

$\beta\ \gamma\ \delta$ The *fourth lumbricalis*, arising at γ from the third and fourth tendon of the long flexor. δ the tendon, in which it ends.

The *systematic connexion* appears in Tab. X. Fig. 20. Z α. Then in Fig. 19. c; covered by the short flexor of the toes R S T U V. Then in Fig. 18. h; covered by the middle aponeurosis plantaris A F G.

The tendons insert themselves into the tubercles of the bones of the first order of the toes, that stand out on that side of their posterior heads, which lies next the great toe: and a thin aponeurosis joins them to the tendons of the long extensor of the toes.

ε The tendon of the long flexor of the great toe, which being increased by the portion ζ received from the tendon of the long flexor of the toes, is then in a manner split according to its length η, at last inserted at θ into the last

bone of the great toe, into the rough protuberance in the lower part of the poſterior head of that bone.

The ligament, by which it is confined, ſee in Tab. X. Fig. 18. c. d. d. Add here Fig. X.

The *ſyſtematic connexion* appears in Tab. X. Fig. 20. b c d e; covered by the tendon of the long flexor of the toes A, and by the head C that joins it in the ſole of the foot. Then in Fig. 19. n o; covered by the ſhort flexor of the toes N, and the abductor of the great toe F G. Then in Fig. 18. æ æ b; covered by the middle aponeuroſis plantaris A C.

Moreover in Tab. VII. it appears at l l in the foot. In Tab. VI. ε ε in the foot. In Tab. V. γ γ in the foot. In Tab. III. w w in the foot. In Tab. II. f f g in the foot: and in Tab. I. F F G in the foot. Laterally in Tab. IX. ϱ in the foot.

MUSCLES OF THE GREAT TOE, AND OF THE THREE NEXT TOES.

FIGURE IX.

The ſhort extenſor of the toes.

a a Its origin from the upper part of the anterior protuberance, that ſtands forward from the calcaneum.

b The portion, that goes to the great toe. c the tendon, in which it ends; inſerted at d into the oblique eminence that is in the upper part of the firſt bone of the great toe, juſt before its poſterior head, on that ſide that lies next the ſmall toes.

e The portion belonging to the ſecond toe. f its tendon.

g The portion going to the third or middle toe. h its tendon.

i The portion going to the fourth toe. k its tendon.

l. l. l Thoſe tendons conjoined with the tendons of the long extenſor of the toes, ſo as to form common tendons, which are diſtinguiſhed by an intermediate line.

m. m. m The cut tendons of the long extenſor of the toes.

n l The common tendon formed by the conjunction of the tendon n from the long extenſor, and l from the ſhort extenſor. o the extremity inſerted into the bone of the 2d phalanx. p. q portions which run to the third bone, of which the one p belongs to the extenſor longus, and the other q to the brevis. r the common end of both thoſe portions, inſerted at s into the upper part of the poſterior head of the bone of the firſt order. The ſame may be alſo obſerved in the third and fourth toe.

Add here Fig. 1.

The ſyſtematic connexion appears in Tab. IX. a—e in the left foot; covered by the tendon of the extenſor proper to the great toe S, and the tendons of the

the long extenſor of the toes R. Q. P. O, by the tendon of the third peroneus L M, of the ſhort peroneus D E, and by the ligament which covers the tendons at the joint of the foot and upon the inſtep X.

And in Tab. III. e—l in the foot. Then in Tab. II. i k l in the foot, covered by the tendon of the extenſor proper to the great toe I K, and by the tendons of the long extenſor of the toes A E, and the tendon of the third peroneus D. Alſo in Tab. I. H I K in the foot; covered in like manner by the tendon of the extenſor proper to the great toe i, and by the tendons of the long extenſor of the toes c b a ω, and by the tendon of third peroneus χ.

And in Tab. VII. y z α β in the foot; covered by the tendon of the ſhort peroneus w. Then in Tab. VI. W in the foot, covered by the tendons of the extenſor longus U, of the third peroneus V, and of the ſhort peroneus L. Then in Tab. V. t; covered in like manner by the tendons of the long extenſor of the toes r, and by the tendon s of the third peroneus, and of the ſhort peroneus i; and moreover by the ligament q, by which the tendons are confined upon the back and bend of the foot.

MUSCLES OF THE GREAT TOE.

FIGURE X.

The long flexor of the great toe.

a a Its origin from the poſterior flat ſide of the fibula, beneath a third part of its length: and from thence its riſe is continued along the two lower thirds of the bone almoſt to the ancle b b.

c c The line wherein the deſcending fibres converge or meet from each ſide.

d The tendon.

The ligament, that confines the tendon, ſee in Tab. IX. Φ in the right foot.

Add here Fig. 8. ε ζ η θ.

The *ſyſtematic connexion* appears in Tab. VII. h i k in the leg. Then in Tab. VI. H in the leg; covered by the ſoleus Ω, &c. In like manner too it is ſeen in Tab. V. f in the leg.

Laterally its connexion appears in Tab. IX. Π Σ in the right foot. And in Tab. III. V in the leg.

FIGURE XI.

The extenſor proper to the great toe, laterally.

a a Its origin from the flat ſide of the fibula, that lies next the tibia in the fore part of the leg; and from that ſide along almoſt the whole anterior ſpine: but below, where the ſaid ſpine is flatted, it ariſes from the flat ſide which it forms. And along the extent of this origination, it ariſes too from the ligament which occludes moſt of the ſpace or interval betwixt the bones of the leg; and below, a ſmall part ariſes alſo from the tibia b, next the ligament.

c The tendinous portion of its origin.

d The tendon, inſerted at e into the upper part of the poſterior head of the laſt bone of the great toe.

The manner in which it is retained by the ligament, that is in the fore part of the leg at the bend of the foot, ſee in Tab. IX. Y Z in the left foot: and in Tab. I. r. t in the leg and foot.

f The aponeuroſis, that joins the tendon on this ſide from the capſule of the joint of the great toe, with its metatarſal bone.

The aponeuroſis, that joins it on the other ſide, ſee in Fig. 13. f.

The *ſyſtematic connexion* appears in Tab. IX. S S S T in the left foot, covered by the long extenſor of the toes, with the third peroneus G I N.

In its fore part the connexion appears in Tab. II. H I K L M in the leg and foot; covered by the long extenſor of the toes, with the third peroneus. Then in Tab. I. i i i k l l l in the leg and foot; covered by the long extenſor of the toes, with the third peroneus $\tau \psi \varphi$, and the tibialis anticus n. Moreover in Tab. IX. $\lambda \lambda \mu \nu$ in the right foot.

FIGURE XII.

The abductor and ſhort flexor of the great toe, in their lower ſide.

a—e The *abductor of the great toe.*

a Its origin from the root of the protuberance of the calcaneum, that forms the heel: from whence it is outwardly tendinous at b, and in that part coheres for a long way with the aponeuroſis that covers it.

c The tendon, at laſt conjoined at d with the ligament f, that ties the outer ſeſamoide bone to the firſt bone of the great toe, with which ligament it is inſerted at e into the inner and lower part of the poſterior head of the firſt bone of of the great toe.

Add here Fig. 13. a—c.

The *ſyſtematic connexion* appears in Tab. X. Fig. 19. F—K; covered by the ſhort flexor of the toes L M N. Then in Fig. 18. Q—S; covered by the aponeuroſis O.

Moreover in Fig. 20. m n, and Fig. 21. $\beta \gamma \delta$. And in Tab V. δ in the foot.

f The ligament, which ariſing at g from the outer ſeſamoide bone of the great toe, is inſerted at e, conjunctly with the tendon of the abductor d, into the firſt bone of the great toe.

The *ſyſtematic connexion* of this ligament, ſee in Tab. X. Fig. 21. ε. And Fig. 20. o; in part covered by the tendon of the long flexor of the great toe d e. So alſo in Fig. 19. K and Fig. 18. T.

h—s The *ſhort flexor of the great toe.*

h The longer tendinous head, ariſing at i from the lower and anterior extremity of that ſide of the calcaneum which lies next the other foot, juſt behind its juncture with the cubiform bone.

k The ſhorter tendinous beginning, ariſing at l from the lower part of the middle cuneiform bone of the tarſus.

m Part of that portion of the middle aponeurosis plantaris, that goes into the beginning of the short flexor of the great toe.

The portion, which it receives from the tendon of the tibialis posticus, see in Tab. XXIV. Fig. 14. i.

n Part of the short flexor, which belongs to the outer sesamoide bone of the great toe.

o o The part in which the short flexor joins the tendon of the abductor of the great toe. p its insertion into the outer sesamoide bone of the great toe, into the lower and back part of that side of the bone which lies next the other foot.

q That part of the short flexor which belongs to the inner sesamoide bone of the great toe.

r The tendon, in which it ends, inserted at s into the back part of the inner sesamoide bone of the great toe. But being conjoined at t with the tendinous end of the adductor pollicis, it has one extremity common to that and the transversalis of the foot.

Add here Fig. 13. d e.

The *systematic connexion* appears in Tab. X. Fig. 21. o—u and y z α; covered by the abductor of the great toe $\beta\gamma$. Then in Fig. 20. s s v p q r; covered by the abductor of the great toe m n, the tendon of the long flexor of the great toe c d, and by the long flexor of the toes C D, &c. with the first lumbricalis S. Then in Fig. 19. q q s w x y; covered by the abductor of the great toe F H, the tendon of the long flexor of the great toe n, the first lumbricalis f, and the short flexor of the toes N O. Then in Fig. 18. U V W X and betwixt Y and C; covered by the abductor of the great toe Q R, and by the middle aponeurosis plantaris A C.

Moreover in Tab. VIII. it appears at w x in the foot. And in Tab. VII. *n* in the foot.

u The place whence the adductor of the great toe is cut off, with the transversalis of the foot.

v The tendinous end, common to the adductor of the great toe, and the transversalis pedis, w the place of its juncture with the ligament y, that goes from the inner sesamoide bone of the great toe, to the insertion of it at x, in the first bone of the great toe.

y The ligament, which arises at z from the inner sesamoide bone of the great toe, and being conjoined with the common tendinous end of the abductor pollicis v and transversalis pedis, is inserted therewith at x into the first bone of the great toe.

The *systematic connexion* appears in Tab. X. Fig. 21. w. And Fig. 20. x; in part covered by the tendon of the long flexor of the great toe d e. So also in Fig. 19. u, and Fig. 18. a.

FIGURE XIII.

The abductor and short flexor of the great toe, laterally.

a a b b c The *abductor of the great toe.*

a a Its origin from the lower part of the inner side of the root of the tubercle of the calcaneum, where it forms the heel.

b b The

b b The meeting together of the fibres in angles.

c The tendon, in which it ends.

Add here Fig. 12. a—e.

The *ſyſtematic connexion* appears in Tab. IX. σ—τ in the right foot.

Alſo in Tab. I. A B C in the foot.

d e The *ſhort flexor of the great toe.*

e The lower part that joins itſelf to the tendon of the abductor pollicis.

Add here Fig. 12. h—s.

The *ſyſtematic connexion* appears in Tab. IX. υ υ φ in the right foot; covered by the abductor of the great toe σ σ.

Alſo in Tab. III. d in the foot. And in Tab. II. e in the foot. And in Tab. I. D in the foot; covered by the abductor of the great toe A C.

f The aponeuroſis, coming partly from the tendon of the abductor of the great toe g, and partly from the capſule h of the joint of this toe, with its metatarſal bone, and joins the tendon i i of the extenſor proper to the great toe.

The *ſyſtematic connexion* appears in Tab. IX. ξ in the right foot.

And in Tab. I. m in the foot.

k The tendon of the extenſor proper to the great toe, here cut off at l, and inſerted at m into the laſt bone of the great toe.

FIGURE XIV.

The adductor of the great toe, with the tranſverſalis pedis.

a b b c c The ligament, which ariſing from the calcaneum at b b, is inſerted at c c into the eminence of the cubical bone of the tarſus.

d The excurſion of the foreſaid ligament, which outwardly joins the ligament a in Fig. 15. And together they go into the origination e e of the adductor of the great toe.

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. K—O. Then in Fig. 20. δ δ γ ε η; covered by the head D F that joins the long flexor of the toes in the ſole of the foot. In Fig. 19. the reſt is covered by the abductor of the little toe B A, and ſhort flexor of the toes L.

f—m The *adductor of the great toe.* Internally it ariſes from the bottom part of the fourth metatarſal bone, near the root of its poſterior head, and in its lower part it ſprings from almoſt the whole poſterior head of the third and ſecond metatarſal bone.

f Part of the adductor of the great toe, which is in a manner diſtinct or ſeparate from the reſt.

g The other more conſiderable portion. h the tendinous part of its origin.

i The tendinous end, which being firſt conjoined at k with the tendinous end p of the ſhort flexor of the great toe, and is with that inſerted into the poſterior and lower part of that ſide of the inner ſeſamoide bone of the great toe, that lies next the ſecond toe; and being joined at l with the ligament n, that goes from the inner ſeſamoide bone to the firſt phalanx of the great toe, inſerts itſelf therewith at m into the ſaid firſt bone of the phalanx, into the lower part of that ſide of its poſterior head, that lies next the ſecond toe, not much beyond the poſterior edge of the ſaid head.

The

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. k—n v; covered by the ſhort flexor of the great toe o. s. Then in Fig. 20. t t u w covered by the ſhort flexor of the great toe s, and by the long flexor of the toes D M L K, with the lumbricalis Z. X. W. S. Then in Fig. 19. p r t; covered by the ſhort flexor of the great toe q, and the firſt lumbricalis f, with thoſe in Fig. 20. and alſo by the ſhort flexor of the toes L T. Then in Fig. 18. Y Z; covered by the ſhort flexor of the great toe, the firſt lumbricalis e, and the reſt mentioned in Fig. 19.

Moreover in Tab. VIII. it appears at Γ in the foot. And Tab. IV. Σ in the foot.

n The ligament, which ariſes at o from the inner ſeſamoide bone of the great toe, and being conjoined with the tendon l, from the end of the abductor of the great toe i, is with that inſerted into the firſt bone of the great toe at m. See y Fig. 12.

p The tendinous end of the inner tail of the ſhort flexor of the great toe, here cut off at q, inſerted at r into the inner ſeſamoide bone of the great toe.

s The ligamentary excurſion d cut off, together with the ligament a Fig. 15.

t—y The *tranſverſalis of the foot.*

u The tendinous beginning, whoſe firſt origination w, ſprings from the capſule that covers and includes the joint of the little toe with its metatarſal bone.

x The part that ariſes from the capſule of the joint of the fourth toe with its metatarſal bone, and next adjacent aponeuroſis that covers the interoſſei muſcles of that toe.

y y The extremity, by which it joins the tendinous end that is common to the adductor and ſhort flexor of the great toe.

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. f g h i. Then in Fig. 20. ξ ξ ξ σ; covered by the lumbricalis S. V. W. X. Z, and by the tendons of the long flexor of the toes N. O. P. Q. Then in Fig. 19. g g h; covered by the lumbricales f. e. d. c, with the tendons of the long flexor of the toes, and thoſe of the ſhort flexor O. S. U. V, with the abductor of the little finger E. Then in Fig. 18. i i i; covered by the lumbricales e. f. g. h, by the tendons of the long and ſhort flexor of the toes v, &c. and by the middle aponeuroſis plantaris D E F G, and the abductor of the little toe r.

Moreover in Tab. VIII. Z in the foot.

MUSCLES OF THE LITTLE TOE.

FIGURE XV.

The ſhort flexor of the little toe, in its bottom part.

a b The broad ligament, that ariſes from the lower eminence of the cubiform bone, and is inſerted into the poſterior heads of the 2d, 3d, 4th, and 5th of the metatarſal bones: and which confines the tendons of the long peroneus in the ſole of the foot, like a ſheath. Externally it is partly covered by

by meeting the excurſion b of the ligament a Fig. 14; which excurſion is here cut off at c.

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. N O P. Then in Fig. 20. ζ η θ; partly covered by the head D that joins the long flexor of the toes in the ſole of the foot. Then in Fig. 19. W; covered by the ſhort flexor of the toes L T R, and the abductor of the little toe B. And what there appears naked, is in Fig. 18. covered by the portion M, by which the aponeuroſis that covers the abductor of the little toe, is conjoined with the middle aponeuroſis plantaris.

d e f g The *ſhort flexor of the little toe.*

e Its origin from the ligament a. But inwardly it ariſes from the middle of the lower ſide of the root of the poſterior head of the 5th metatarſal bone.

f The tendinous end, inſerted at g into the lower part of the poſterior head of the firſt bone of the little toe.

Add here Fig. 16.

The *ſyſtematic connexion* appears in Tab. X. Fig. 21. Q R; covered by the tranſverſalis pedis h. Then in Fig. 20. ι κ; covered, as before, by the tranſverſalis pedis σ. Then in Fig. 19. a b; covered in like manner by the tranſverſalis pedis h, and the abductor of the little toe B E. So likewiſe in Fig. 18. p; covered by the tranſverſalis pedis i, and the abductor of the little toe q r.

h The place whence the interoſſeus of the little toe is cut off at its origin from the ligament a b. i. that whence the ſecond interoſſeus of the fourth toe is cut off. k that whence the firſt interoſſeus of the ſame toe is cut off. l l the origin of the principal part of the adductor of the great toe, g h Fig. 14. And m that cut from its other leſs part f Fig. 14. See P. Fig. 21. Tab. X.

FIGURE XVI.

The ſhort flexor of the little toe, laterally.

a The origin from the outer edge of the fifth metatarſal bone, that ſtands downward, near its poſterior head.

b The part that is inſerted at c c into the outer edge of the lower ſide of the metatarſal bone of the little toe, juſt behind its anterior head.

d The other and more conſiderable part, which is inſerted into the firſt bone of the little toe. e the tendinous end, in which it terminates.

Add here Fig. 15. d—g.

The *ſyſtematic connexion* appears in Tab. IX. w x in the left foot; covered by the abductor of the little toe r v.

And in Tab. VI. Z—γ in the foot. Then in Tab. V. α β in the foot, covered by the abductor of the little toe y.

FIGURE XVII.

The abductor of the little toe, laterally.

a The fleſhy part uncovered.

b The tendon, in which it at laſt ends; inſerted at c into the outer part of the root of the poſterior head of the firſt bone of the little toe.

d

d The part which is covered by a tendinous expanſion.

e e Its origin from the whole outer ſide of the root of the tubercle belonging to the os calcis, where it forms the heel.

f Part of the aponeuroſis that covers it, inſerted at g into the back part of the great rough eminence that ſtands out from the poſterior head of the metatarſal bone, belonging to the little toe, in the outer ſide of the foot.

The aponeuroſis, which it ſends to the tendon of the long extenſor of the toes, ſee in Fig. 1. w.

Add here Fig. 18.

The *ſyſtematic connexion* appears in Tab. IX. r—v in the left foot; covered by the aponeuroſis s.

And in Tab. V. u—y in the foot; covered by the aponeuroſis u.

FIGURE XVIII.

The abductor of the little toe, in its lower part.

a. b The two parts of which it is compoſed; and of which the part a forms here a diſtinct tendon, but in other ſubjects is often joined into one with the other tendon, and in others again it is perfectly diſtinct.

c c Its origin from the whole lower part of the protuberance of the calcaneum, that forms the heel; from whence the one part at d, that is outwardly quite tendinous, and the part at e, cohere together with the aponeuroſis and tendinous parts thatcover them.

f The tendon inſerted at g into the outer part of the root of the poſterior head of the firſtbone of the little toe.

The aponeuroſis, that goes off from its end to the tendon of the extenſor belonging to the little toe, ſee in Fig. 1. w.

Add here Fig. 17.

The *ſyſtematic connexion* appears in Tab. X. Fig. 19. A B C D E; covered by the ſhort flexor of the toes M L. Then in Fig. 18. q r; covered by the aponeuroſis I K L

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FINIS.

A

COMPLEAT SYSTEM

OF THE

BLOOD-VESSELS

AND

NERVES,

TAKEN FROM

ALBINUS's Edition of *EUSTACHIUS*,

ALSO FROM

Ruysch, *Vieussens*, *Du Verney*, *Haller*, *Trew*, and *J. B.* Surgeon at *Avignon*;

Beautifully Engraved on Large Copper Plates,

With TABLES of EXPLANATION,

Containing the Text of EUSTACHIUS, ALBINUS, &c.

TRANSLATED INTO ENGLISH.

TO WHICH ARE PREFIXED

Three Whole-length ANATOMICAL FIGURES,

REPRESENTING

The External Parts of the Human Body in both Sexes.

LONDON:
Printed for JOHN and PAUL KNAPTON. M.DCC.LIV.

THREE WHOLE LENGTH ANATOMICAL FIGURES,

REPRESENTING THE FORE VIEW OF A MAN, AND TWO DIFFERENT VIEWS OF A WOMAN;

Taken from *BIDLOO*'s ANATOMY,

And Enlarged to the ſame Size as *ALBINUS*'s ANATOMICAL FIGURES of the BONES and MUSCLES.

TABLE I.

This table, which is taken from Bidloo, repreſents the fore view of the body of a man; where we may obſerve in general, comparing it with the next, which repreſents that of a woman, that beſides the features being ſtronger or more maſculine in this than in the other, the neck is not ſo round, the ſhoulders are broader, the cheſt is likewiſe more broad and prominent, the belly more compreſſed, the haunches narrower, and the limbs more brawny and muſcular, though not ſo round, nor altogether ſo thick.

A The head, divided into the hairy ſcalp; and the face 2.
B The forehead.
C The eye-brow.
D The eye.
E The ear.
F The cheek.
G The noſe.
H The upper lip.
I The under lip.
K The chin.
L The pomum adami, or protuberant part of the larynx; which in men is much more conſpicuous than in women.
M The ſternum, or breaſt-bone.
N N The mammæ, or breaſts.
O The ſcrobiculus cordis, or pit of the ſtomach.
P The epigaſtrium.
Q Q The hypochondria.
R The umbilical region, in the middle of which the navel.
S The hypogaſtric region.
T T The ilia.
U The pubes.

V V The inguina, or groins.
W The penis.
X The ſcrotum.
Y Y The thighs.
Z Z The knees.
α α The legs.
β β The tarſus, or bending of the foot.
γ γ The metatarſus.
δ δ The toes.
ε ε The ſhoulders.
ζ ζ The arms.
η η On the right ſide the olecranon; on the left, the bending of the fore-arm.
θ θ The fore-arms.
ι ι The carpus, or wriſt.
κ κ The metacarpus.
λ λ The fingers.

TABLE II.

This table is likewiſe taken from Bidloo, and repreſents the fore view of the body of a woman; where the features are ſofter, the neck more round and ſmooth, the pomum adami leſs protuberant, the ſhoulders narrower, the cheſt likewiſe narrower and more compreſſed, the belly more prominent, the haunches a great deal broader, the thighs more thick and rounded, the arms, hands, legs, and feet, more delicate and plump, and not ſo large.

The parts however which are the moſt characteriſtic of the ſex, are,
A A The mammæ.
B The pudendum.

TABLE III.

This third table too is taken from Bidloo, and repreſents the back view of the body of a woman; where the ſame proportions and conformation of parts in general may be obſerved, as in the former. What is to be remarked further in this figure, is,

A The vertex, or ſummit of the head.
B The hind head, the hair tied up over it.
C The temple.
D The neck.
E The ſhoulder.
F The ſhoulder-blade.
G The back.
H The loins.
I The buttock.
K The thigh.
L The ham.
M The calf of the leg.
N The heel.
O The elbow.

A

Compleat Syſtem

OF THE

BLOOD-VESSELS

AND

NERVES.

TABLE I.

THESE four figures are taken from Euſtachius, with Albinus's text. But ſuch parts of the text, of theſe, as well as of all the other figures which are taken from Euſtachius, as are printed in *Italic* characters, are Euſtachius's own. Fig. 1. anſwers to Tab. 25. N°. 2. of Euſtachius. Fig. 2. to Tab. 26. N°. 2. Fig. 3. to Tab. 22. N°. 2. and Fig. 4. to Tab. 24. N°. 2.

FIGURE I.

The heart, veins, and arteries.

This firſt figure ſhews the internal veins and arteries, as alſo a few of the external, as they are diſtributed through the thorax and abdomen, and likewiſe amongſt the muſcles, bones, &c.

It appears ſufficiently conſpicuous in the figure, which veins are attended with concomitant arteries: this may likewiſe be diſcovered in the index of the arteries, which follows that of the veins.

1 The heart.

2 The right auricle.

a The leſſer, or right coronary vein, which joins itſelf with the greater one.

b. b Branches of the greater coronary vein.

c The vena cava ſuperior.

d The root of the vein r, Fig. 18. Tab. 2.

e. e The ſubclavian veins, which as ſoon as they get to the axillæ, are called axillary.

f The thyroid vein, which joins itſelf with a branch of the right internal jugular.

g The root of the vein l, Fig. 18. Tab. 2.

h The root of the vein n, Fig. 18. Tab. 2.

i. i The roots of the mammary veins. See l. l Fig. 16. Tab. 2.

k. k The internal jugular veins, which diſtribute their branches to the neck, &c.

l A branch of the internal jugular vein, which immediately divides into the veins m and r, of which

m m. m m the one, runs up under the digaſtric and ſtylohyoideus muſcles, then creeps up the cheek, afterwards runs obliquely by the ſide of the noſe to the middle of the forehead, and there, together with its fellow of the other ſide, it opens into the frontal vein o. But firſt it ſends off branches to the lower part of the eye, the external parts of the noſe, the greater canthus, and the eye-brow. With this vein m m, is joined the branch n of the vein v, which is a branch of the external jugular. The ſame vein m m produces a branch, from which ariſe the two veins p and q; one of which p joins itſelf with a branch of the vein r, running to the parts under the lower jaw; and the other q divides again into two, which are diſtributed to the lips. But the one which runs upon the lower lip is continued on, to join its fellow coming from the other ſide.

r The other branch of the vein l mounts up likewiſe under the digaſtric muſcle; but firſt it gives off a branch, which joining with the vein p, runs to the parts under the lower jaw.

s. s Branches of the internal jugular vein, running into one, which produces the vein t, paſſing through the foramen, which is either in the appendix to the lambdoidal ſuture, or near it, to the lateral ſinus of the dura mater.

u A vein going from the internal jugular to the vein v, which is a branch of the external jugular, running up before the ear.

v A branch of the external jugular vein, which running up upon the outſide of the ſternomaſtoideus muſcle, afterwards runs on under the parotid gland before the ear, and paſſes beyond it immediately below the ſkin. It is lopped both above and below.

w. w Veins ariſing from a branch of the vein r, which runs up behind the maxilla, and afterwards diſtributes its branches w w to the pericraneum, under the temporal muſcle.

x. x The roots of the external jugular veins.

y. y The roots of the firſt veins which the external jugulars produce.

ζ A vein, which makes the one k, Fig. 4.

α A vein, which makes the one h, Fig. 4.

β A vein, which seems to run on to the lunated notch of the scapula, at the root of the coracoid process.

γ. γ Veins which run between the serrati antici and serrati magni muscles.

ΓΓ Veins which run between the latissimi dorsi and serrati magni muscles, bestowing one branch upon the internal part of the latissimi dorsi, and the other upon the external part of the serrati.

δ. δ *The trunks of the humerary and axillary veins.* Explic. Tab. 2. Fig. 19. and 20. D. d.

ε ε. ε ε *The humerary veins*, called by others the cephalic.

ζ *The root of a common superficial vein*, arising from the conjunction of a branch of the *humerary* ε, and the *external axillary*.

η A branch of the *humerary vein, which at the bending of the fore-arm is joined with the axillaris profunda.* Compare Expl. Tab. 2. Fig. 19. G.

θ. θ The *axillary* veins, called the basilic.

ϑ. ϑ The *external axillary veins*, Eust. de ven. com. prof. brach. antigr. w, *i. e.* the superficial branches of the *axillary* veins. They are joined by intermediate branches with κ. κ the *axillares profundæ*, but not in the same manner.

ι The *external axillary vein*, joined at last by one branch with another of those into which the *axillaris profunda* is divided; and by another with a branch of the *humerary*, from which arises the *common superficial vein* ζ.

κ. κ *The venæ axillares profundæ, which arise for the most part above the middle of the humerus, sometimes higher, and sometimes lower. Expl. Tab. 2. Fig. 19. and 20. L. C.*

The axillaris profunda is usually double, and runs down on each side of the artery. Sometimes in the middle of its course its two branches join into one, then are presently divided, and afterwards united again about the bending of the fore-arm, which Vesalius was ignorant of. Expl. Tab. 2. Fig. 19. M.

The axillaris profunda, above the middle of the humerus is divided into two branches, between which the artery runs, and which join again into one about the bending of the fore-arm, not only as is seen in Tab. 2. Fig. 20. but in several different manners, none of which Vesalius has either painted or described. Expl. Tab. 2 Fig. 20. m.

He has certainly described but too superficially the deep seated branch κ *of the axillary vein, which about the middle of the humerus, sometimes a little lower, and sometimes higher up, is almost always divided into two branches, which running down on each side of the artery, a little below the bending of the fore-arm, are joined together again, sometimes twice, and also with a third kind of branch of the humerary vein, arising from that which constitutes the common subcutaneus vein; and after going a little further, they are again divided into three branches, one of which o, which was unknown to Vesalius, dividing into two, sends one branch (*σ *Fig. 2.) to creep upon the broad ligament common to the radius and ulna; and another (*τ *Fig. 2.) to the exterior side of the ulna, after having perforated the said ligament (*μ *Fig. 4.) But*

the

the other two being divided in the ſame manner as the artery, run down along with it to the extremity of the hand, ϗ. ϗ: τ. υ. *De ven. comm. prof. brach. antigr.* I.

λ. λ Branches going to the biceps of the arm.

μ A branch of the vena *axillaris profunda*, which having paſſed the bending of the fore-arm, joins itſelf with the *common vena profunda.* From this branch are ſent off *others to the beginnings of the muſcles, which ariſe from the internal tuberoſity of the humerus*, of the pronator teres, the internal radial, and the ſublimis. Expl. Tab. 2. Fig. 19. and 20. N. n. compare ι Fig. 2.

ν In the left arm, where the branch μ is wanting, and the *axillaris profunda* remains longer divided, thoſe branches upon the inſide of the pronator teres, the radialis internus, and the ſublimis, ariſe ſeparately from the ſame branch at the diviſion of the *axillaris profunda*, from which the vein μ in the right arm ariſes.

The axillaris profunda at the bending of the fore-arm, gives off ſome branches to the beginnings of the muſcles, which ariſe from the internal tuberoſity of the humerus. Expl. Tab. 2. Fig. 19. and 20. N. n.

ξ *The vena communis profunda, which ſeems to be divided into three branches, contrary to the opinion of Veſalius. Expl. Tab. 2. Fig. 19. and 20. P. p.* Compoſed by *the union of the axillaris profunda, and a branch from the humerary, which makes the vena communis.*

ο. ο The veins σ. ς. *Fig. 2. The middle branch of the vena communis profunda, which is neither deſcribed nor painted by Veſalius; creeping between the muſcles which bend the ſecond and third joints of the fingers, upon the whole length of the radius, and of the membranous ligament of the ulna, gives off branches to the muſcles which lie upon the radius; and ſometimes being double, a branch of it runs down on each ſide of the artery. Expl. Tab. 2. Fig. 19. and 20, S. s.*

ϗ. ϗ *Higher branches of the venæ communes profundæ.* Expl. Tab. 2. Fig. 19. and 20. R. r, which we call the radial veins: The right vein which is ſingle, is continued to the palm of the hand, where it forms the arch ⟃. The branches π. π going to the ſupinator longus, and the muſculus ſublimis, are produced from it; and afterwards, before it gets to the hand, it ſends off the branch ρ, which runs below the long abductor of the thumb and the leſſer extenſor, down to the back of the hand, where it makes its way through between the beginnings of the abductor and interoſſeus muſcle of the fore-finger into the wriſt, diſtributing its branches deep in the ſubſtance of it. But after it has entered between the beginnings of the abductor and of the interoſſeus muſcles of the fore-finger, it ſends off the branch ς, one branch of which belongs to the ſide of the fore-finger and the thumb, and the other to the thumb itſelf; and by that it joins itſelf with a vein ariſing from the arch ⟃.

But in the left arm he has repreſented the radial vein immediately divided into two, a branch running down on each ſide of the artery. One of theſe σ goes on to the back of the hand, analogous to the vein ρ. And of

that

that vein σ, the one ς is a branch, the ſame with ς of the right hand, but belonging only to the fore-finger.

The higher branch of the vena communis profunda, running near the radius, is frequently, as well as the lower, divided into two, and going down towards the thumb under the brachial muſcle which bends it, and giving off lateral branches to the neighbouring muſcles, is diſtributed to the inſide of the thumb, or fore-finger. Expl. Tab. 2. Fig. 19. and 20, R. r.

τ *The lower branch of the vena communis profunda*, Expl. Tab. 2. Fig. 19. and 20. Q. q, which we call the ulnar vein. In the palm it is joined to the radial ϑ, in the form of an arch; from which arch ☉ branches are ſent off to the thumb and fingers, as is evident in the figure.

υ In the left arm, inſtead of one ulnar vein, there are two, and the artery runs down between them. Their origin and conjunction immediately after by an intermediate branch, appears from the figure. Their courſe towards the palm likewiſe appears, and of the branches upon it running to the thumb and fingers, otherwiſe than in the right hand, which ſhews the variety of their diſtribution.

The lower branch of the vena communis profunda, running near the ulna, is not always ſingle, but ſometimes dividing into two (which Veſalius takes no notice of) it runs down on each ſide of the artery, and going on under the muſcle which is inſerted into the eighth bone of the wriſt, at the ſame time ſending off branches to the neighbouring parts, is diſtributed to the inſide of the hand, and gives off branches ſometimes to all the fingers, ſometimes to four, and ſometimes to fewer of them. Expl. Tab. 2. Fig. 19. and 20. Q. q.

φ The vena cava inferior.

χ. χ The veins of the diaphragm.

ψ. ψ. ψ The roots of the venæ hepaticæ. See b. b. c. c. c. c Fig. 10. Tab. 2.

ω *A ſmall vein ariſing from the right ſide of the vena cava above the emulgent, and diſtributed to the fatty membrane which covers the right kidney.*

The vena cava, where it firſt leaves the liver on the upper part bended towards the ſpine, ſends off a branch from the right ſide (but not from the left, as ſome authors have mentioned) which is divided into a great number of ſmaller ones, beſtowed upon the fat which covers the right kidney, but not upon that of the left.

Γ *A ſmall vein, ariſing either from the cava, or from the upper part of the right emulgent; which is diſtributed partly to the diaphragm, partly to the right glandula renalis, and partly to the upper part of the body of the kidney.*

The vena cava, near that part where the right emulgent is ſent off, frequently gives off a branch to be beſtowed upon the contiguous part of the diaphragm, the upper part of the ſubſtance of the right kidney, and alſo the glandula renalis of that ſide; which branch, as far as I know, has not hitherto been deſcribed by any anatomiſt.

Δ Δ The emulgent veins.

It moſt frequently happens both in men and in monkeys, that only one vein and one artery is beſtowed upon each kidney. De Ren. Cap. XV.

The

The veins and arteries of the kidneys ſeldom divide into branches, till they have entered the hollow part of the kidneys. De Ren. Cap. XVII.

Θ *A ſmall vein ariſing from the middle of the left emulgent on its upper part, which is diſtributed partly to the diaphragm, partly to the left glandula renalis, and partly to the upper part of the fat that covers the kidney.*

Λ *A ſmall vein ariſing from the upper part of the left emulgent near the kidney, diſtributed to the lower part of the fat of the ſame kidney.*

The vein which goes to the left kidney ſends off branches both from its upper and lower ſide; from the upper ſide, for the moſt part, it produces the one Θ *in the middle of its courſe, and the other* Λ *hard by the kidney. The firſt of theſe* Θ *ſends off ſmaller branches to the upper part of the fat, which run down as far as the middle of the kidney, to the glandula renalis, and to the diaphragm. Theſe branches, which are ſometimes very conſiderable, anaſtomoſe very beautifully with the veins of the diaphragm. But the laſt and ſuperior branch* Λ, *is diſtributed to the lower part of the fat about the kidney. The emulgent vein below, about the middle of its courſe, produces the ſpermatic (*Ξ *of the left) which is likewiſe, though ſeldom, imitated on the right ſide. But it is ſtill more ſeldom that we ſee this happen in both the emulgents together; and this is the diſtribution of the veſſels which moſt frequently occurs.* De Ren. Cap. XVI.

Ξ. Ξ The ſpermatic veins; the left of which ariſes from the inferior part of the left emulgent vein; and the right from the right ſide of the vena cava, a little below the right emulgent. The branches which they ſend off to the neighbouring parts appear, as alſo thoſe by which they are joined with the ſpermatic arteries, and likewiſe another conjunction of the left ſpermatic vein with the artery of the ſame ſide. See Fig. 11. Tab. 2.

Π. Π. Π. Π. Π. Π Branches of the lumbar veins: viz. of the third, fourth, and fifth.

Σ. Σ The iliac veins.

Φ A ſmall vein, which ariſing from the left iliac, is diſtributed to the back part of the pelvis. There are frequently two or three ſuch found.

Ψ A vein like the former, which here joins itſelf with the branches of the hypogaſtrics.

Ω. Ω The hypogaſtric veins.

A. A Branches of the hypogaſtric veins, running upon the poſterior part of the pelvis, and anaſtomoſing with one another, and with the vein Ψ.

B. B Branches of the hypogaſtric veins, which go out to the buttocks by the ſpaces between the os ſacrum and the hip bones.

C. C Branches of the hypogaſtric veins, running upon the fore-part of the bladder, where they are variouſly divided, and united together again. But about the root of the penis they run into one vein D. See g. g. k. Fig. 11. Tab. 2.

E A vein, which ariſing from the iliac a little below the hypogaſtric, runs on to the fore-part of the bladder, and joins itſelf with the vein C. See i Fig. 11. Tab. 2.

F. F The branches l. m Fig. 11. Tab. 2. of the hypogaſtric veins, which about the root of the penis unite with the vein D, whereby is produced

G A vein running upon the back of the penis. See n Fig. 11. Tab 2.

H. H Branches

H. H Branches of the iliac veins, which run upon the fore-part of the pſoæ and internal iliac muſcles.

I. I The roots of the epigaſtric veins, z. z Fig. 16. Tab. 2.

K. K The roots of the venæ ſaphenæ.

L. L The crural veins, which ſpread their branches upon the thighs. Their various diſtribution upon the two thighs is expreſſed.

M. M Branches going to the internal iliacs.

N. N To the tenſores vaginarum femorum.

O. O To the cruræi.

P. P. P. P. P. P To the vaſti externi.

Q. Q To the vaſtus internus.

R. R To the ſhort adductors of the thighs.

S. S. S. S. S To the great adductors of the thighs.

T. T. T. T Theſe branches divide themſelves into two, one running down on each ſide of the artery.

V The branch N Fig. 4. of the vena poplitea, which paſſing forwards between the tibia and fibula at the upper part of the leg, runs down upon the membrane which connects theſe two bones, and afterwards upon the tibia, and beyond that deep into the back part of the extremity of the foot. W A branch of it going through to the ſole of the foot.

X A different diſtribution of the above-mentioned vein V. This immediately divides itſelf into two branches, one of which runs down on each ſide of the artery. Beſides, it likewiſe differs in its branches from the vein V, both in the leg and the extremity of the foot.

3 The pulmonary artery.

4 The aorta.

5 The right coronary artery of the heart. It joins its branches to others of the leſſer coronary vein.

Correſpondent to the veins b. b are the branches of the left coronary artery.

6 The common root of the aorta, which afterwards makes the common root of the right ſubclavian and carotid arteries, and of the left carotid.

7 The left ſubclavian artery.

8 The common root of the right ſubclavian and carotid arteries.

9 The carotid arteries, attending the internal jugular veins k. k.

10. 10 A branch of the external carotid artery, which attends firſt the vein m, running up with it behind the digaſtric and the ſtylohyoideus muſcles, and climbing up upon the cheek; but afterwards it attends the vein q, divides itſelf with it into two, and is diſtributed to the lips. That which runs upon the lower lip, continues itſelf to its fellow coming from the other ſide.

11 A branch of the external carotid artery; from which is produced the branch 12 going to the parts under the lower jaw, which is attended with a branch of the vein r. 13. 13 Is another branch, which runs up behind the digaſtric and ſtylohyoideus muſcles, and then accompanies the vein v, and runs up with it under the ſkin before and above the ear. 14 Is a third branch, which makes b Fig 4. 15 Is a fourth, which runs backwards under the

trachelomaſtoideus, the ſplenius capitis, and cucullaris muſcles; afterwards it perforates the cucullaris, where it riſes from the cranium, and aſcends by the occiput, c Fig. 4.

From the branch 13 ariſes another, which together with that branch of the vein r, from which the veins w. w are produced, runs up behind the lower jaw, and afterwards together with the veins w. w, is diſtributed to the perioſteum upon the ſide of the cranium under the temporal muſcle.

16 Is the artery 12 Fig. 2. and its branches accompany thoſe of the vein f.

17. 17 The roots of the mammary arteries, m. m Fig. 16. Tab. 2. accompanying the roots of the mammary veins i. i.

The vein z is accompanied by the artery k Fig. 4. Do the branches of the ſame artery on the left ſide accompany thoſe branches of the internal jugular vein, which run backwards towards the ſhoulder?

The vein β is attended with a branch of the ſubclavian artery, which appears to run on to the lunated notch of the ſcapula, at the root of the coracoid proceſs.

18 An artery going to the pectoral and deltoid muſcles. It joins its concomitant branch to a branch of the vein γ.

The vein γ of the left ſide has an artery attending it, which ſinks down with it between the ſerratus anticus and the ſerratus magnus muſcle.

The veins ſ ſ are accompanied with branches of the axillary arteries, which run down together with them between the latiſſimi dorſi and the ſerrati magni muſcles, one branch belonging to the internal part of the latiſſimi, and the other to the external part of the ſerrati.

19. 19 The axillary arteries, which are afterwards called the brachials. They attend the veins θ κ. θ κ.

The veins λ. λ are attended by the arteries which go to the biceps muſcle of the arm.

The veins μ. ν are attended by the ſame arteries, and their branches.

20. 20 The arteries 19. 19 Fig. 2. are attended by the veins ο. ο.

21. 21 The radial arteries. They attend the radial veins ϰ. ϰ.

The veins π. π are attended by the branches of the radial artery which go to the muſculus ſublimis and ſupinator longus.

The veins ϱ. σ are attended by branches of the radial arteries, which run down under the long abductors of the thumbs and the leſſer extenſors to the back of the hand, where they paſs through between the beginnings of the abductors and the foremoſt interoſſeus muſcles of the thumbs to the palm of the hand, and diſtribute their branches deep in the palms.

22. 22 Branches of theſe arteries which attend the veins ϱ. σ, which branches are ſent off, after they have entered between the beginnings of the abductors and of the foremoſt interoſſeus muſcles of the thumbs. They attend the veins ς. ς. But in the right hand they likewiſe ſend a branch to the thumb, as the concomitant vein ς does.

23. 23 The ulnar arteries, which attend the ulnar veins τ. υ. In the right arm is exhibited the ulnar artery continued into the radial in the hand in form

of

of an arch, the ſame as that of the vein ☉; from which arch are alſo ſent off branches with the veins to the thumb and fingers.

24. 24. 25 The aorta deſcendens. 25 Shews the part where it leaves the diaphragm.

26. 26. 26 The phrenic arteries, which join correſponding branches to others of the phrenic veins χ. χ.

27 The root of the celiac artery.

28 The root of the upper meſenteric artery.

29. 29 The emulgent arteries. They attend the emulgent veins Δ. Δ.

30. 30 The ſpermatic arteries. Thoſe branches appear by which they are united with the ſpermatic veins Ξ. Ξ, which they accompany in their courſe. On the left ſide there is likewiſe ſhewn another conjunction of the artery with the vein which attends it: See W. X Fig. 11. Tab. 2.

31 The root of the lower meſenteric artery.

32. 32 The iliac arteries, attending the iliac veins Σ. Σ.

33. 33 The hypogaſtric arteries, which accompany the hypogaſtric veins Ω. Ω.

34 The root of the left umbilical artery. The ſame on the right ſide.

Beſides the hypogaſtric arteries ſend off lateral branches, which accompanying the veins B. B, go out with them to the buttocks, by the ſpaces between the os ſacrum and the hip-bones.

35. 35 Branches of the hypogaſtric arteries, which run upon the forepart of the bladder, mingled with the veins C. C.

36. 36 Branches of the ſame arteries, which run upon the back of the penis. See u. u Fig. 11. Tab. 2. They attend the vein G.

The veins H. H are accompanied with branches of the iliac arteries, which run upon the forepart of the pſoæ and internal iliac muſcles.

37. 37 The roots of the epigaſtric arteries. See a. a Fig. 16. Tab. 2. They accompany the roots of the epigaſtric veins I. I.

38. 38 The crural arteries, which, together with the concomitant crural veins L. L, diſtribute branches to the thighs, and accompany every where the branches of theſe veins M. M. N. N. &c.

39 The branch N Fig. 4. of the popliteal artery, which paſſing forwards between the tibia and fibula in the upper part of the leg, runs upon the membrane between theſe two bones, and afterwards upon the tibia, ſinking down at laſt to the back part of the extremity of the foot. It accompanies the vein V, and produces a branch, which attending the vein W, paſſes through to the ſole of the foot.

40 The ſame branch 39 of the popliteal artery, the various diſtribution of which is here ſhewn; for it differs from that on the right leg, in its branches both on the leg, and the extremity of the foot. It attends the vein X.

FIGURE II.

This figure likewiſe ſhews the internal veins and arteries, and a few of the external, as they are diſtributed through the thorax and abdomen, and alſo amongſt the muſcles, bones, &c. but eſpecially the more deeply ſeated ones than thoſe in the laſt figure; and likewiſe various diſtributions of ſome of thoſe contained in the laſt.

From this figure likewiſe appears what arteries attend upon certain veins; and the ſame thing might be diſcovered in the explanation of the arteries, which I ſhall ſubjoin to that of the veins.

a The vena cava ſuperior, cut off immediately below the origin of the vena azyga.

b The root of the vein r, Fig. 18. Tab. 2.

c. c The ſubclavian veins.

d The root of the vein f, Fig. 1.

e The root of the vein l, Fig. 18. Tab. 2.

f The root of the vein n, Fig. 18. Tab. 2.

g The root of the right mammary veins, l Fig. 16. Tab. 2. The ſame on the left ſide.

h. h The roots of the internal jugular veins, k. k Fig. 1.

i The root of the right external jugular vein.

k. l A double root, from which the right vertebral vein takes its origin.

m The trunk of the right vertebral vein, produced from the conjunction of the roots k and l; which it likewiſe ſhews to be united by an intermediate branch, before that conjunction. This vein together with its attendant artery 11 enters the foramen of the tranſverſe proceſs of the ſixth vertebra of the neck, reckoning from the head.

n A branch of the right vertebral vein, climbing up without the vertebral canal.

o The left vertebral vein, which enters the foramen of the tranſverſe proceſs of the ſeventh vertebra of the neck, without being attended by any artery.

p. p Another vertebral vein, which, together with its attendant artery, enters the tranſverſe proceſs of the ſixth vertebra of the neck.

Unleſs perhaps the vein (which is ſometimes the caſe) before it enters theſe foramina of the tranſverſe proceſſes of the vertebræ, be divided into two; for then the larger branch perforates the foramen of the ſixth vertebra, and the leſſer that of the ſeventh, but the laſt has either no artery at all attending it, or elſe it is ſo ſmall as not to deſerve to be taken notice of: And hence I imagine it happens, that frequently the foramina of the ſeventh vertebra are obſerved to be ſmaller than thoſe of the ſixth: The diſtribution too of theſe veſſels is likewiſe various in other reſpects. Oſſium exam.

q. q *The trunks of the humerary and axillary veins.* Expl. Tab. 2. Fig. 19. and 20. D. d.

r. r. r. f. s Are the following obſervations of Euſtachius to be applied here? *From the great diviſion of the vena cava in the jugulum, is firſt produced the internal jugular vein, a great deal leſs than the external* (in an ape) *contrary to what it is obſerved in man. After this it is divided into two branches,* viz. *the axillary w which is the loweſt, and the humerary* r. r. r *the higheſt. From the humerary is immediately produced the external jugular* f, *which at its origin for the moſt part is forked* s, *making a kind of foramen for the clavicle to paſs through; which I thought proper to obſerve, not only to inform thoſe who are leſs verſed in anatomy, that the external jugular vein in man has no communication with the humerary, which is ſent off after it, unleſs it is in preternatural caſes; but likewiſe, &c. De vena comm. prof. brach. antigr.* 1.

t. t *The humerary vein,* commonly called the cephalic.

u. u *The interior branches of the humerary veins, divided into two a little above the bending of the fore-arm; which branches being joined to others of the axillaris, make the common veins of the arm. Expl. Tab.* 2. *Fig.* 19. *and* 20.

v *The root of the common ſuperficial vein. Ibid.* H. h.

w. w *The axillary veins,* commonly called the baſilic.

x. x The roots of the veins f. f, Fig. 1.

y The ſuperficial branch of the vein x, joining itſelf with the beginning of the *external axillary.*

z. α Branches of the *axillary vein,* z going to the coracobrachialis muſcle, and α to the biceps of the arm.

β. β The external axillary veins of Euſt. de ven. common. prof. brach. antigr. IV. that is, the ſuperficial branches of the *axillary veins.*

γ A ſmall branch, which joins the *external axillary* with the *axillaris profunda.*

δ Another branch, by which the *external axillary* joins itſelf with the branch ι of the *axillaris profunda.*

ε The exterior branch *of the external axillary* vein, *which is divided into two a little above the internal tubercle of the humerus.* Which branch, *joined with another of the humerary* u, *conſtitutes the common ſuperficial vein v.* Expl. Tab. 2. Fig 19. and 20.

ζ Two veins, which are in the place of the *axillaris profunda.* They join together almoſt in the middle of the humerus, afterwards they divide, and at the beginning of the fore-arm unite again into one.

η The *vena axillaris profunda,* Expl. Tab. 2. Fig. 19. and 20. L. l. This riſes about the middle of the length of the humerus. Afterwards, before it gets down to the fore-arm, it divides into two branches, which about the beginning of the fore-arm unite again into one. Compare Expl. Tab. 2. Fig. 20. m.

θ. θ. θ Branches going to the bicipites muſcles of the arms.

ι A branch of the *vena axillaris profunda,* which ariſing near the poſterior condyle of the humerus, from the other trunk of that vein, and having received the vein δ from the *external axillary,* runs down to the fore-arm, where it joins in with the vena *profunda communis.* From *this* branch *are ſent off ſmaller ones to the origins of the muſcles, which ariſe from the interior tube-*

roſity

rosity of the humerus, Expl. Tab. 2. Fig. 19. and 20. N. n: viz. ϰ a branch going to the pronator teres, λ to the radius internus and the sublimis, and μ to the flexor profundus muscle. Compare μ Fig. 1.

ν *A slip of the interior branch of the humerary vein, divided into two above the bending of the fore-arm, which slip is joined with the axillaris profunda immediately at the bending* Expl. Tab. 2. Fig. 19. G.

ξ *A branch arising from the humerary vein, where it goes to form the common vein, or from the common vein itself* (unless likewise from the branch ε *of the external axillary) which branch is joined with the axillaris profunda. See O. o. Fig.* 19. *and* 20. *Tab.* 2.

ο. ο *The common venæ profundæ, which appear to be divided into three branches, contrary to the opinion of Vesalius.* Expl Tab. 2. Fig. 19. *and* 20. *P. p.* Produced *from the conjunction of the axillares profundæ and the branches* ν *and* ξ, *arising either from the humerary vein where it goes to form the common vein, or from the common vein itself,* (unless likewise from the branch ε *of the external axillary)*

π. π The roots of the radial veins, ϰ. ϰ Fig. 1.

ρ. ρ The roots of the ulnar veins, τ. υ Fig. 1.

σ. ς *The middle branch of the vena communis profunda, which is neither described nor painted by Vesalius; creeping between the muscles which bend the second and third joints of the fingers, upon the whole length of the radius, and of the membranous ligament of the ulna, it gives off branches to the muscles which lie upon the radius; and being sometimes double* ς, *a branch of it runs down on each side of the artery.* Expl. Tab 2. Fig. 19. *and* 20. *S. s.*

τ. τ *A slip sent off from the above middle branch of the vena communis profunda, a few inches below the head of the ulna; which perforating the membranous ligament of the radius and ulna, runs to the back part of the arm, and is distributed to the muscles which rise from the ulna, and to others lying upon it* (μ. μ. Fig. 4.) *This slip, which is sometimes double, and runs down on each side of the artery, is carelessly over-looked by Vesalius.* Expl. Tab. 2. Fig. 19. *and* 20. *T. t.*

υ A branch of the same vein ς passing through to the back part of the fore-arm, where it makes ν Fig. 4.

φ. φ The vena azyga.

In man this vein does not run on in a strait course, but above the right trunk of the aspera arteria, is bended a little to the right, and very considerably backwards, towards the spine, and as soon as it gets to the roots of the vertebræ, it begins to rise up, and climb towards the middle part of them, which it reaches about the eighth or ninth vertebra of the thorax, where it is quite in the middle, and hid by the artery, goes down to the bottom of the thorax, being first however divided into two. De vena sine pari, antigr. XII.

The vena azyga, about the eighth or tenth vertebra of the thorax, is divided into two branches, viz. *the right and left. These run downwards, pass the diaphragm, and each of them terminates variously by one or more branches, either in the back part of the cava near the origin of the emulgent vein, or in the emulgent itself, and especially the left backwards, (for I do not remember that I have ever observed the same on the right) sometimes higher, and sometimes*

times lower, viz. *at that part where it ſends off the ſpermatic vein.* De Ren. Cap. XVI.

χ A branch of the vena azyga, which preſently terminates in the third and fourth right intercoſtal veins.

ψ. ω. Γ. Δ. Θ. Λ. Ξ. Π The following eight intercoſtal veins of the right ſide, which the azyga ſends off; viz. ψ the fifth, ω the ſixth, Γ the ſeventh, Δ the eighth, Θ the ninth, Λ the tenth, Ξ the eleventh, Π the twelfth.

Σ A branch of the vena azyga, which preſently terminates in two of the intercoſtal veins of the left ſide, viz. Φ the third, and Ψ the fourth.

Ω A branch of the ſame vein, which very ſoon forms other two intercoſtal veins of the left ſide, viz. A the fifth, and B the ſixth.

C. C Another branch of the ſame vein, which makes the ſeventh left intercoſtal vein.

D. D Another branch of the ſame vein, which makes the eighth left intercoſtal vein.

E. E A branch ſtill of the ſame vena azyga, making the ninth left intercoſtal vein.

F The left branch of the vena azyga, that divides itſelf into two about the eighth vertebra of the thorax, which terminates in the following left intercoſtal veins, viz. G the tenth, H the eleventh, and ſeemingly I the twelfth.

The intercoſtal branches of the vena ſine pari, as ſoon as they are ſent off from this vein, run firſt, together with the arteries, between the pleura and the external intercoſtal muſcles, becauſe the internal intercoſtals do not reach ſo far as the roots of the ribs; and going on a little way, they take their courſe between the two layers of the intercoſtals. De vena ſine pari antigr. XVIII. This is ſhewn on the right ſide of the figure, for on the left the internal intercoſtals are removed.

K A vein which unites the eleventh and twelfth of the left intercoſtals.

The intercoſtal veins *in many places in their courſe are mingled with one another, but eſpecially about the poſterior part of the back.* De vena ſine pari, antigr. XVIII.

L. L. L. L The intercoſtal veins, *having perforated the muſcles which go by the ſame name, are diſperſed between them, and even creep upon the fat under the ſkin, which ought to be taken notice of, if it was for no other reaſon than this, that the muſcles which lie upon the poſterior part of the back, have moſt part of their nouriſhment from thoſe branches which run externally.* De vena ſine pari, antigr. XVIII.

M. M *The lowermoſt branches of the vena* ſine pari, *are for the moſt part mingled and united with the firſt veins of the loins, which take their origin near the ſecond of the lumbar vertebræ.* De vena ſine pari, antigr. XVII.

N The vena cava inferior, cut off immediately above the origin of the emulgents.

O. O The roots of the emulgent veins.

P The root of the right ſpermatic vein.

Q. Q The iliac veins.

R. R. R.

R. R. R. R. R: R R. R. R. R Ten lumbar veins, five on each ſide. On the left ſide the third and fourth are united.

The firſt lumbar veins have their origin near the ſecond vertebra of the loins. De vena ſine pari, antigr. XVII.

S. S. S. S Branches of the lumbar veins perforating the tranſverſe muſcles of the abdomen

T. T. T. T Veins which join the third of the lumbars with the fourth, and the fourth with the fifth.

V. V. V. V: V. V. V. V Branches of the lumbar veins paſſing through to the back part of the loins.

W. W The hypogaſtric veins, the diſtribution and conjunction of whoſe branches in the back part of the pelvis are ſufficiently conſpicuous. Compare A. A Fig. 1.

X X Branches of the hypogaſtric veins, going out to the buttocks, through the ſpaces between the os ſacrum and the hip-bones.

Y. Y A branch of the left hypogaſtric vein, which paſſing through the great foramen of the coxendix, and indeed through a niche in the upper margin of that foramen, goes out to the internal ſide of the thighs, where it diſtributes branches between the pectineus, the ſhort and long adductors of the thigh, and the gracilis, forwards; and the external obturator, and great adductor, backwards.

Z. Z The ſame vein on the right ſide, as Y. Y on the left; but here it ariſes not from the hypogaſtric, but from the iliac.

Æ. Æ Branches of the crural veins, which join in with the veins Y and Z, and are united with them.

α. α. α. α Branches of the veins Y and Z, which wind round the heads of the ſhort and long adductors of the thighs, and of the graciles, and run up towards the pubis upon the fore-part of the graciles.

ϵ. ϵ: ϵ Theſe branches are ſingle in the right thigh, but in the left each of them is divided into two, one of which runs down on each ſide of the artery. They give branches to the great adductors of the thighs.

ſ. ſ The roots of the epigaſtric veins, z. z Tab. 2. Fig. 16.

♂. ♂ The roots of the venæ ſaphenæ.

♃. ♃ The crural veins.

But a great many branches, which the hypogaſtric, iliac, and crural veins ſend off, and are here cut away, are repreſented in Fig. 1. and underſtood from that.

☞ A variation of the vein V Fig. 1. for here it immediately divides into two branches, one of which runs down on each ſide of the artery.

ϗ A variation of the vein X Fig. 1. for here it remains ſingle. The large branches which appear upon the upper part of the left leg, belong to the ſame vein, which in this poſition of the foot cannot be ſeen there.

1 The aorta, cut away immediately above the heart. 2 The angle of the aorta 3 The aorta deſcendens.

4 An artery, which ſoon divides itſelf into two of the right intercoſtals, viz the third and fourth accompanying the veins χ.

5 The

5 The common root, which terminates in that of the right ſubclavian and right carotid artery, and in the left carotid.

6 The root of the left ſubclavian artery.

7 The common root of the right ſubclavian and right carotid arteries.

8. 8 The roots of the carotid arteries.

9. 9 The ſubclavian arteries.

10. 10 Branches of the ſubclavian arteries, which give off

11 11 The vertebrals, which accompanying the veins m and p, enter the foramina of the tranſverſe proceſſes of the ſixth vertebra of the neck.

12. 12 Theſe anſwer to the vein f Fig. 1. The branch 13 together with the branches of the vein f Fig. 1. aſcends upon the fore-part of the thyroid gland. They likewiſe give off branches, which run up behind that gland.

14. 14 The roots of the mammary arteries. They accompany the roots of the mammary veins g.

15. 15 Branches which make β Fig. 1. and run on to the lunated notches of the ſcapulæ, at the roots of the coracoid proceſſes.

16. 16 The brachial arteries, which attend the *axillary* veins.

The vein z is attended by the artery which goes to the coracobrachialis muſcle.

The veins α. θ. θ. θ are attended by the arteries going to the bicipites muſcles of the arms.

The vein ι is attended by a branch of the brachial artery, and likewiſe to the branches of the ſame vein are joined others going to the pronator teres, the ſublimis, and flexor profundus muſcle.

17 The root of the radial artery. It attends the vein π.

18. 18 The roots of the ulnar arteries. They accompany the veins ϱ. ϱ.

19. 19 The deep ſeated arteries of the fore-arms. They acccompany the veins σ. ς. That in the left arm runs down between the two branches into which the vein divides itſelf.

The veins τ. τ are accompanied by branches of the laſt-mentioned arteries, which together with them paſs through the ligament between the radius and ulna, to the outſide of the arm, where they make μ. μ Fig. 4.

The vein υ is attended by a branch of the ſame artery paſſing through to the back of the fore-arm, where it makes ν Fig. 4.

20 The fifth intercoſtal artery of the right ſide, which accompanies the vein Ψ; 21 the ſixth, which attends the vein ω; 22 the ſeventh, attending the vein Γ; 23 the eighth, attending the vein Δ. The vein Θ is attended by the ninth. The vein Λ by the tenth. 24 The eleventh, attending the vein Ξ. The vein Π is attended by the twelfth.

The intercoſtal veins of the left ſide Φ. Ψ. A. B. C. D. E. G. H. I are attended by the third, fourth, fifth, ſixth, ſeventh, eighth, ninth, tenth, eleventh, and twelfth left intercoſtal arteries.

The veins L. L. L. &c. are likewiſe attended by branches of the intercoſtal arteries.

25 The roots of the phrenic arteries. See 26. 26 Fig. 1.

26 The root of the celiac artery.

27 The root of the ſuperior meſenteric artery.

28 The

28 The root of the left emulgent artery.

29 The roots of the ſpermatic arteries. See 30. 30 Fig. 1.

30 The root of the inferior meſenteric artery.

The lumbar veins R. R. &c. are attended by the lumbar arteries.

The veins V. V. &c. are attended by branches of the lumbar arteries which paſs through to the back part of the loins.

The veins S. S. &c. are attended by branches of the ſame lumbar arteries, which perforate the tranſverſe muſcles of the abdomen.

31. 31 The iliac arteries, which accompany the iliac veins Q. Q.

32 An artery running upon the fore-part of the vertebræ of the loins, and of the os ſacrum; which I have found ariſing from the poſterior part of the aorta, immediately above its diviſion into the iliacs.

33. 33 The hypogaſtric arteries, which attend the hypogaſtric veins W. W.

34. 34 The roots of the umbilical arteries.

The roots of theſe arteries are more plainly pointed out 35. 35 Fig. 1. there being hardly room to mark them here; but you will be able to diſtinguiſh them by comparing this with the firſt figure.

The veins X. X are attended by branches of the hypogaſtric arteries, which go out to the nates, by the ſpaces between the os ſacrum and the hip-bones.

The vein Y. Y is attended by a branch of the left hypogaſtric artery, which runs out with it by a groove in the upper margin of the great foramen of the hip-bone, to the inner part of the thigh; where it firſt ſends off branches forwards to the pectineus muſcle, the ſhort and long adductors of the thigh, and the gracilis; and backwards to the external obturator and great adductor.

The vein Z. Z is attended by the companion to that artery which attends the vein Y. Y on the left ſide; but here it does not ariſe from the hypogaſtric artery, but from the root of the epigaſtric.

The veins Æ. Æ are attended by branches of the crural arteries.

The veins α. α. α. α are attended by branches of thoſe arteries, which together with them wind round the heads of the ſhort and long adductors of the thighs and the graciles, and run up towards the pubis upon the fore-part of the graciles.

The veins ε. ε. ε are likewiſe attended by arteries. But in the right thigh the veins are ſingle, running along with the arteries; whereas in the left they are double, receiving the artery betwixt them. The branches too of the veins going to the great adductors of the thighs, are likewiſe attended by branches of arteries going to the ſame muſcles.

35. 35 The crural arteries, attending the crural veins ϑ. ϑ.

36. 36 The roots of the epigaſtric arteries.

37 This artery is the ſame with 39 Fig. 1. and here it runs down in the middle between two branches of the vein ☉.

38 This artery is the ſame with 40 Fig 1. and here it is accompanied by the ſingle vein ϗ. Thoſe ſmaller branches which attend the larger ones in the upper part of the left leg, belong to this artery.

FIGURE

FIGURE III.

This figure ſhews the ſubcutaneous veins and arteries, ſome of which emerge from the bodies of the muſcles, others between them, and others run upon the fore-part of them. Moſt part of the veins have no arteries accompanying them, and ſome are attended with arteries which are ſmaller than the veins. Theſe laſt frequently join one another, and their different courſe is ſhewn upon the two ſides; all which is ſufficiently conſpicuous in the figure. But although we can eaſily tell in a great many of them, from what branches the particular veins and arteries ariſe, yet there are numbers of them where that does not ſo plainly appear; and as it would be but of little ſervice if it was explained, I have not attempted it.

a a The temporal muſcles.
b The zygoma.
c The maſſeter.
d. d The occipitales.
e. e The ſternomaſtoidei.
f. f The places of the complexi, the ſplenii of the head, and the levators of the ſcapulæ.
g. g The cucullares.
h. h The infraſpinati.
i. i The teretes minores.
k. k The teretes majores.
l. l The latiſſimi dorſi.
m. m. &c. The ſpines of the vertebræ.
n. n The external oblique muſcles of the abdomen.
o. o The internal oblique muſcles of the abdomen.
p. p The ſpines of the oſſa ilia.
q. q The glutei magni.
r The external ſphincter ani.
s. s The graciles.
t. t The great adductors of the thighs.
u. u The ſemimembranoſi.
v. v The ſemitendinoſi.
w. w The bicipites of the legs.
x. x The thicker parts of the tendinous ſheaths of the thighs.
y y. y y The gemelli of the legs.
z. z. z The ſolei.
A. A The peronei longi.
B B. B B The peronei breves.
C. C The long extenſor of the toes.
D The tibialis anticus.
E. E The peronei tertii.
F The long flexor of the toes.
G. G The abductors of the little toes.
H. H The deltoids.
I, I The internal brachials.

K. K The long ſupinators.

L M. L M The tricipites of the arms. The ſhort heads L. L. The long ones M. M.

N. N The palmares longi.

O. O The olecrana.

P. P The leſſer condyles of the humeri.

Q The radialis externus.

R The radialis externus longior.

S The radialis externus brevior.

T. T The common extenſors of the fingers.

V. V The ulnares externi.

W The proper extenſor of the little finger, or at leaſt its ſituation.

X. X The ulnares interni.

Y The radialis internus.

Z Γ The long abductor of the thumb. Z its upper part. Γ its lower.

Δ The leſſer extenſor of the thumb.

Θ The external ligament of the wriſt.

FIGURE IV.

This figure ſhews the more internal veins and arteries.

a The veins and arteries running upon the perioſteum under the temporal muſcle, theſe are w. w Fig. 1.

b The artery 14 Fig. 1.

c The artery 15 Fig. 1.

d. d The veins s. s Fig. 1.

e The vein t Fig. 1.

f Theſe branches anſwer to the branches of the vein d, and of the artery e in the other ſide, and the branch c on this ſide anſwers to the artery c of the left ſide; but they twiſt round the ſplenius, and not round the complexus, when the ſplenius is removed, as in the left ſide.

g A Vein and artery, which perforate the ſplenius from within outwards.

h The continuation of the vein w Fig. 1. its aſcending branches are i. i, which have no arteries accompanying them.

k A continuation of the vein and artery z Fig. 1. the vein runs on to join the vein h in the form of an arch.

l l Veins which run down under the rhomboid muſcles. m Their conjunction with the dorſal n. n. Of the branches of the vein l, one is attended with an artery, the other is not.

o o Branches of the ſubclavian arteries, which accompany the veins l. l.

p. p Branches of the vein k, running upon the ſupraſpinati muſcles.

q A branch of the ſubclavian artery, joining itſelf with the vein p.

r A branch of the vein k running under the ſupraſpinatus muſcle. There is a branch on the right ſide which anſwers to it.

s Branches of a vein and artery which run backwards by the lunated notch of the ſcapula, at the root of the proceſſus coracoideus, diſtributed under the ſupraſpinatus muſcle.

t. t Branches

t. t Branches of the axillary veins and arteries, from which ariſe the branches u. u, giving off v. v to the internal ſides of the deltoid muſcles, w. w to the internal ſides of the long heads of the tricipites brachiorum: and x. x which join in with the branches δ. δ.

y. y Branches of the ſame veins and arteries t. t, giving off z. z. z which run under the teretes minores muſcles, and afterwards perforate the infraſpinati, diſtributing branches between them and the ſcapulæ, and likewiſe to the infraſpinati internally: α to the teres minor; β chiefly along the the ſerratus magnus externally; to which they give off branches.

γ. γ The *axillary* veins of Euſtachius, which are called the baſilic.

δ. δ Branches of the *axillary* veins, which being conjoined with the veins x. x, and then with their attendant arteries, form the branches ε. ε, aſcending under the deltoid muſcles; ζ. ζ to the long heads of the tricipites muſcles of the arms; η. η between the ſhort heads of the tricipites muſcles and the brachiæi externi, running towards the fore-arm; θ. θ to the long heads of the ſame tricipites muſcles.

ι. ι Branches of the axillary veins, which join themſelves with the veins θ. θ.

κ The *vena axillaris profunda* of Euſtachius. This is η Fig. 2.

λ The *vena axillaris externa* of Euſt. This is β Fig. 2.

μ. μ The veins and arteries τ. τ Fig. 2. running out to the external part of the fore-arms, between the ſhort ſupinators and long abductors of the thumbs. Their various courſes are repreſented in the two fore-arms. In the left they give off aſcending branches, but not in the right. In the left the deſcending branch of the vein immediately becomes *double*, and *betwixt theſe two branches the artery runs down*, according to Euſtachius, who ſays that this ſometimes happens, vid. Tab. 2. Fig. 19. and 20. In the right the vein is ſingle, attended with the artery. In the left they run further down toward the hand.

υ The vein and artery υ Fig. 2. going to the back part of the wriſt.

ξ. ο. π. ρ. σ. ς. τ. υ. φ. χ. ψ. ω. Γ. Δ. Θ. Λ. Ξ. Π. Φ. Ψ. Ω Branches of the intercoſtal and lumbar veins and arteries, making their way through the muſcles, &c. to run upon the back.

A. A Branches of the hypogaſtric veins and arteries X. X Fig. 2. going out to the nates by the origins of the pyriform muſcles, between the os ſacrum and iſchia. There is a variety ſhewn in the two ſides, both as to the branches, and this other circumſtance, viz. that on the right ſide the vein immediately ſplits into two, ſending down a branch on each ſide of the artery.

B A vein ariſing from the branches of the hypogaſtric, going out between the os iſchium and ſacrum, and running through between the lower of the gemelli and the quadratus femoris, without any artery attending it. It joins itſelf at C with the vein G, a branch of the crural.

D. D Branches of the crural veins and arteries, ariſing from them immediately below the groins, and then perforating the muſcles, &c. backwards. Here their various diſtributions upon the two ſides appear. Upon the left ſide a branch of the vein E joins itſelf with a branch of the vein a, and on the right ſide the branch F unites with the vein G.

G. G Branches

G. G Branches of the crural veins and arteries, which perforate the great adductors of the thighs backwards. Their various diſtributions upon the two thighs likewiſe appear; amongſt others the trunk of the right vein immediately divides into two, a branch running down on each ſide of the artery. The branches which they diſtribute and give off to the muſcles, are ſufficiently conſpicuous.

H The vein A, and the artery G, before they perforate the great adductor of the thigh, run down very large under the end of that muſcle. Their branches are the vein and artery H, perforating the ſame adductor at the ſhort head of the biceps of the leg.

I. I Veins and arteries, branches of the crurals, joining themſelves in with the branches G. G.

K. K The crural veins, attended by

L. L The crural arteries.

M. M Branches of the crural veins and arteries, joining themſelves to the branches G. G.

N. N Branches of the crural veins and arteries, which in the upper part of each leg, paſs through between the tibiæ and fibulæ from behind forwards, where the veins make ⊙ and ♂ Fig. 2. and the arteries 37. 38 of the ſame.

O. O The fibular veins and arteries. Their branches and various diſtributions appear upon the two legs. Amongſt other differences, in the right leg the vein divides immediately into two branches, one of which runs down upon each ſide of the artery; whereas the left is ſingle, except that near its origin it gives off a branch which attends the artery, but diſappears about the middle of the thigh.

P. P The tibial veins and arteries. Their branches, together with their various diſtributions upon the two legs, are ſufficiently conſpicuous. The left vein is ſingle, but the right immediately divides into two, accompanying one artery, which runs down betwixt them.

Q Branches of the vein and artery ♂ Fig. 2.

A Com-

A

Compleat Syſtem

OF THE

BLOOD-VESSELS

AND

NERVES.

TABLE II.

THIS table repreſents a ſyſtem of the blood-veſſels of the particular parts and viſcera, including thoſe peculiar to the fœtus, and the parts of generation in both ſexes. The figures are chiefly taken from Euſtachius, Ruyſch, Haller, and Trew.

FIGURE I.

This figure, repreſenting the arteries of the face, is taken from Dr Haller, Icon. Anatomic. part. corp. hum. faſcic. III. *Tab.* 2.

A The common trunk of the carotid.
B The common jugular vein.
C The internal carotid.
D The external carotid.
E The ſuperior thyroid artery.
F The lingual artery, covered by the veins and the ceratogloſſus muſcle.
G The labial artery, the beginning of which is likewiſe covered.
Γ The pterigoidal branches.
Θ A branch going to the dorſum linguæ.

H The trunk of the external carotid, at the parotis.
I The occipital artery, covered by the parotis and the muſcles.
K The artery of the pharynx which is here hid.
L A ſuperficial branch of the labial artery.
M The ſubmental artery.
N Superficial branches of the labial.
O The muſcular artery of the lower lip.
P Its anaſtomoſis with the lower maxillary.
Q The lower maxillary, covered with muſcles, and coming out at the foramen.
R Branches of it going to the quadratum genæ, and to the lower lip.
S Its anaſtomoſis with the ſubmental.
T Anaſtomoſes with the coronary artery of the lower lip.
V Anaſtomoſes of a branch of the inferior labial artery with the coronary of the lower lip
Y The coronary of the lower lip.
Z A branch of it going to the maſſeter and buccinator muſcles.
a A branch of it going to the ſkin.
b A branch going to the muſculus triangularis, and the angle of the lips.
c A branch of the external carotid, going to the parotid gland.
d The tranſverſe artery of the face, ariſing from the temporal.
e A branch going to the temporal muſcle, and the orbicularis of the eyelid.
f The alveolar branch, accompanying the buccinator hardly conſpicuous.
g A branch going to the zygomatic muſcle, the upper part of the parotis, the lower ſide of the orbicular muſcle, and to the ſkin.
h Branches going to the buccinator.
i Branches going to the angles of the lips.
k k The coronary artery of the upper lip.
l The lateral naſal artery produced from it.
m Its anaſtomoſis with the ophthalmic.
n Another naſal artery, ſending off two branches to the margin of the bone of the noſe.
o Another branch ſent off to the ſeptum narium.
p The coronary artery of the upper lip on the right ſide, and its anaſtomoſis with that on the left.
q A branch going to the zygomatic muſcle, and the root of the jugum.
t A deep-ſeated branch, anaſtomoſing at one part with the one that goes to the buccinator muſcle, and at another with the infraorbital artery.
u That anaſtomoſis.
x The ſituation of the trunk of the infraorbital artery, covered with muſcles.
y Anaſtomoſes of a branch of the infraorbital with a branch of the temporal.
z The anaſtomoſis of the infraorbital with the coronary of the lips.
1 A branch going to the root of the noſe.
2 An anaſtomoſis of the infraorbital with the ophthalmic.
3 Another anaſtomoſis.

γ The loweſt branch of it going to the levator communis muſcle, and communicating with f.
4 A branch of the ophthalmic artery, running down to the levator muſcle.
5 Another going to the alæ of the noſe.
6 The trunk of the ophthalmic artery, coming out of the orbit.
7 A branch of it going to the lower eye-lid.
8 Another, going to the upper eye-lid, the corrugator muſcle, &c.
9 A third, going to the ſpace between the eye-brows.
10 The cutaneous branch of the ophthalmic.
11 One running upon the dorſum or ſpine of the noſe.
12 Anaſtomoſes of it with the naſal branches ſent up from the coronary artery of the lips.
Δ The poſterior auricular artery.
13 A branch ſent off from the temporal artery to the maſſeter muſcle, and the parotid gland.
14 A deeper ſeated branch of the temporal artery.
15 The trunk of the temporal artery.
16 The anterior auricular artery.
17 The interior temporal.
18. 19 Its anaſtomoſes with branches of the ophthalmic.
20. 21 Branches going to the forehead, temples, and ſinciput.
22 The exterior temporal.
23 The ſuperior auricular.
24 The ſincipital arteries.
25 Their anaſtomoſis with the occipital.
26 The facial artery.
27 The temporal vein.
28 The facial vein, climbing upwards on the face.
29 The frontal veins.
Λ The ophthalmic vein.
30 Steno's duct.
31 The duct of the acceſſory gland.
32 The maxillary gland.
33 The parotid.
34 The ſocia parotidis.
35 The maſſeter muſcle.
36 The triangularis.
37 The quadratus.
38 The inferior orbicular muſcle.
39 The ſuperior.
40 The naſal of the upper lip.
41 The buccinator.
42 The zygomaticus.
43 The common levator of the lips.
44 The common levator of the upper lip, and of the ala naſi.
45 The orbicular muſcle of the eye-lid.
46 The frontal muſcle.

47 The

47 The temporal.
48 The maſtoid.
49 A ſection of the aſpera arteria.
50 The medulla ſpinalis.
51. 52 The exact middle of each lip.

FIGURE II.

This figure is taken from Ruyſch, Epiſt. Anat. Tab. 13. It repreſents the brain of a boy about ten years old, inverted, and taken out of the ſkull; together with the courſe of the arteries diſperſed through the pia mater, and the origin of the nerves ariſing from the medulla oblongata.

A. A The ſurface of the inverted brain divided into four lobes, together with
B The cerebellum.
C The olfactory nerves with their little arteries and fibrils, which perforate the os cribriforme.
D The optic nerves, covered with the pia mater, upon which a great many ſmall arteries creep.
E The third pair of nerves.
F The fourth pair, or pathetic.
G The fifth pair.
H The ſixth pair.
I The ſeventh pair, or the auditory.
K The eighth, or par vagum.
L The acceſſory nerves.
M The ninth pair, ariſing in the ſame manner as the other nerves which are produced from the medulla ſpinalis, viz. by very ſlender filaments or roots, which I have never ſeen repreſented in any other figure of the brain.
N The tenth pair, ariſing in the ſame manner as the former.
O A portion of the plexus choroides, riſing luxuriant above the ſurface of the brain.
P The annular protuberance, under which creeps the medulla oblongata, covered with the pia mater, and ſupplied with innumerable arteries.
Q The extremity of the medulla oblongata.
R The infundibulum with its little arteries, under which are
S Two protuberances of the medulla oblongata behind the infundibulum, falſely called glands.
T The rete mirabile, produced from the carotid on each ſide.
V The carotid artery.
W The lamella interrupted.
X An artery called the cervical, by Dr Vieuſſens.
Y The vertebral arteries.
Z Prominences of the cerebellum, which from their figure might be called vermiform proceſſes, as juſtly as the true proceſſus vermiformes.

a The cerebellum covered with the pia mater, concerning which I muſt obſerve. Firſt, that the extremities of the ſmall arteries are much more numerous than I could poſſibly here repreſent them. Secondly, that the ſubdiviſions of the cortical ſubſtance could not be here repreſented, the brain not being previouſly prepared for it.

b The ſpinal artery, which has not always the ſame origin in every ſubject. It ſeldom ariſes preciſely from the bifurcation of the cervical artery, but very frequently from the ſides of the vertebral arteries, whether it paſſes out only at one ſide, or at both.

FIGURE III.

Though this figure is not quite ſo elegant as I could wiſh, yet it gives the beſt repreſentation of the veins and ſinuſes of the brain, of any that I know hitherto publiſhed. It is taken from Tab. 12. *of the cephalatomie of I. B—, ſurgeon at Avignon, publiſhed there in the year* 1748.

A The trunk of the vena cava, cut off near the heart.
B The ſubclavian veins.
C The internal jugular veins.
D The external jugulars.
E The jugular ſac, or the beginning of that vein.
F The communication of the jugular vein with the lateral ſinus.
G The ſuperior longitudinal ſinus.
H The lateral ſinus.
I The inferior longitudinal ſinus.
K The torcular ſinus of Herophilus.
L The joining of the ſuperior longitudinal ſinus, the lateral ones, the torcular of Herophilus, and the beginning of the poſterior occipital ſinus.
M The poſterior occipital ſinus.
N The inferior occipital ſinus.
O The veins which terminate in the longitudinal ſinus.
P The communication of the inferior occipital ſinus with the vertebral ſinuſes.
Q The communication of the vertebral ſinus with the jugular vein.
R The vertebral vein, which paſſes through the foramina in the tranſverſe apophyſes of the vertebræ of the neck.
S The beginning of the vertebral ſinuſes.
T The poſterior arcade, formed by the vertebral ſinuſes.
V The communication of the vertebral ſinuſes with the vertebral veins.
X The veins which bring the blood from the neighbouring parts to the vertebral veins.
Y The trunk of the maxillary vein.
Z The different ramifications of the maxillary vein, which go to diſcharge their blood into the external jugular.
& The internal maxillary vein, which returns the blood from the angular vein.

1 The

1 The occipital vein.
2 The auricular vein.
3 The trunk of the temporal vein.
4 The anterior branch of the temporal vein.
5 The middle branch of the temporal vein.
6 The poſterior branch of the ſame vein.

FIGURE IV.

This, together with the following figure, is taken from Ruyſch, Theſaur. Anat. 4. Tab. 3. They repreſent the human heart filled with red wax, ſo as to ſhew the true courſe of the veſſels, and the true figure of the heart and auricles.

A The human heart ſeen in its convex part, and in its natural ſituation.
B Branches of the coronary vein.
C Branches of the coronary artery.
D The right auricle.
E Branches of veins, going from the right auricle.
F The left auricle.
G The trunk of the aorta.
H The trunk of the pulmonary artery.
I The aſcending trunk of the vena cava.

FIGURE V.

A A view of the plain ſurface of the ſame human heart, which reſts upon the diaphragm.

B The trunk of the vena cava with its branches.

C. C. C. C Branches of the coronary artery, whoſe extremities, though extremely minute, are nevertheleſs filled with wax.

D A portion of the right auricle (for the whole of it cannot be ſeen in this poſition) through which innumerable blood-veſſels are diſperſed.

E A remaining portion of the diaphragm.

F The deſcending trunk of the vena cava, perforating the diaphragm.

G A membranous bag, which makes as it were the baſis of the pulmonary vein, and a common cavity with the left auricle.

H The trunk of the aorta, from the back part of which three branches riſe upwards.

I. I. I Three branches of the aorta, riſing upwards.

K The aſcending trunk of the vena cava.

L A portion of the left auricle.

M. M Branches of the pulmonary vein.

N One of the branches of the pulmonary artery; the other branches hardly appear when the heart is in this poſition.

FIGURE

FIGURE VI.

This figure, which repreſents a fore-view of the whole pulmonary ſyſtem, viz. *of the aſpera arteria, and the pulmonary veins and arteries, is taken from Euſt. Tab.* 27. *Fig.* 13.

a The aſpera arteria, cut off near the larynx.
b. b The two bronchia going to the lungs.
c. c. &c. Branches of the bronchia, diſtributed through the lungs.
d The pulmonary artery, cut off near the heart.
e. e Two branches, into which the pulmonary artery divides itſelf, going towards the lungs.
f. f. &c. Branches of the pulmonary artery, diſtributed through the lungs.
g The ſinus of the pulmonary veins, cut off near the heart.
h. i. k. l Four pulmonary veins, ariſing from that ſinus, and diſtributing their branches every where through the lungs.

FIGURE VII.

This figure is taken from Ruyſch, Obſervat. Anat. Fig. 9. *and repreſents the aſpera arteria of a calf, on the back part, freed from the ſubſtance of the lungs, and the pulmonary vein and artery, with the aorta deſcendens cut away from the heart, and the bronchial artery.*

A The aſpera arteria of a calf, viewed on the back part, and the larynx cut away.
B The right branch.
C The left.
D The bronchial artery, ſmall branches of which accompany the bronchia to their extremities.
E The back part of the deſcending aorta, from which the intercoſtal arteries ariſe, cut away from the heart.
. . . . The ſmall trunks of the intercoſtals, lopped off.
F The uppermoſt branch, which I have never ſeen in any animals except cows and calves.

FIGURE VIII.

This figure repreſents a view of the whole celiac artery, and is taken from Haller, Faſcic. Anat. 2. *celiac. Tab.* 2.

A. B The right lobe of the liver turned back.
Γ The left lobe.
Δ The little lobe of Spigelius.
C The gall-bladder.
D The right kidney.

E The

E The ſtomach, in ſuch a poſition, as to have both its orifices turned backwards, almoſt in the ſame manner as when it is quite full.

F The cardia.

⊙ A portion of the omentum.

G The pylorus.

H The deſcending portion of the duodenum.

I That portion of the duodenum which runs a-croſs the ſpine, behind the meſenteric veſſels.

K The termination of the duodenum in the jejunum.

L The left kidney.

M The ſpleen in its natural ſituation.

N The anterior ſurface of the pancreas.

O The poſterior ſurface turned outwards.

P The meſenteric artery paſſing before the duodenum, and behind the pancreas.

Q The middle artery of the colon.

R The trunk of the celiac artery.

S The upper coronary artery.

Φ. Φ The meſenteric branches of the vena portarum.

T The trunk of the vena portarum in its courſe to the liver.

U The right branch of the celiac artery.

X Its hepatic trunk.

Y The duodenal.

Z The right gaſtro-epiploic artery, running along by the great curvature of the ſtomach.

a. a The two inferior pyloric arteries.

b The great pancreatic-duodenal artery.

c Branches going to the duodenum.

d The pancreatic artery, running a long way tranſverſely towards the left.

e The ſplenic artery.

f Its pancreatic branches.

g The poſterior gaſtric branches.

h. h The ſplenic branches.

i The left gaſtro-epiploic artery.

k Its anaſtomoſes with the right.

l The vaſa brevia.

FIGURE IX.

This figure, likewiſe taken from Haller, Faſcic. Anat. 3. art. meſenter. gives a very juſt and beautiful repreſentation of the courſe of the meſenteric arteries.

A. B. C The whole middle part of the meſocolon turned up, ſo that its origin may appear.

A That part of it which reſpects the liver, and

B The ſtomach, and

C The ſpleen.

D The

D The right portion of the meſocolon, and

E The left, going between the ſpleen and the kidney, where it is very narrow.

F. F The large left iliac flexure of the meſocolon, the membranes between the trunks of the veſſels moſtly cut away, in order to expoſe the viſcera with which it is connected.

G A part of it running down to the rectum.

H A part of the ilium.

I The end of the meſentery, which is continued on with the meſocolon of the right ſide.

K. K The right portion of the meſentery, the membranes between moſtly cut away, in order that the contiguity of the veſſels below may appear.

L. L The right portion of the meſentery, diſſected in the ſame manner.

M The cæcum.

N The appendix cæci.

O The right portion of the colon.

P Its tranſverſe portion.

Q The left portion of it.

R The left iliac flexure of the colon.

S The left kidney.

Θ The ſpermatic veſſels of the left ſide.

R The trunk of the aorta.

S The common trunk of the iliac artery.

T The external iliac artery.

Φ The laſt vertebra of the loins.

Ψ The pelvis, or os ſacrum.

V The internal iliac artery.

X The iliac vein.

Y The arteria ſacra.

Z The beginning of the jejunum, emerging from under the meſocolon which lies acroſs it.

a The inferior tranſverſe portion of the duodenum.

b A part of the right kidney.

c The right portion or head of the pancreas.

d Its tranſverſe portion, lying acroſs behind the meſocolon.

e The trunk of the vena portarum.

f The left coronary vein of the ſtomach.

g The meſenteric vein.

h The vena gaſtro colica.

i The right vena colica.

k The vena ileocolica.

l The meſenteric vein, bended in the form of an arch.

m Branches of the meſenteric vein cut off.

n The left vena colica, from which the internal hemorrhoidal is ſent down.

o The aſcending branch of it.

p The deſcending.

q The ſuperior meſenteric artery.

r The middle artery of the colon.
s A branch going to the middle of the meſocolon lying acroſs the back.
t Its right branch joining with the right artery of the colon.
u The right artery of the colon making an arch with the former.
x The arteria ileocolica.
y The arch which it makes with the right artery of the colon.
z A branch of it ſent to the cæcum.
1 Its arch and anaſtomoſes with the meſenteric artery.
2 Branches of the ſuperior meſenteric artery going to the ſmall inteſtines.
3 The left branch of the middle artery of the colon.
4 The left *arteria colica*, or inferior meſenteric.
5 Its aſcending branch.
3. 6 Its conjunction with the middle artery of the colon, or *the great meſenteric arch.*
7 Branches of the ſame going to the colon on the left ſide.
8 The middle trunk of the left artery of the colon.
9 Its arch with the aſcending branch of the artery of the meſocolon.
10 The inferior trunk of the left artery of the colon, or *the internal hæmorrhoidal artery.*
11 Its arch with the former.
12 Double arches of the right artery of the colon.
13 Similar arches in the middle artery of the colon.
14 The ſame in the left.
15 Rectilineal branches running upon the inteſtines from the ſecond arches.
16 The epigaſtric arteries.
17 The ſpermatic veſſels.

FIGURE X.

This figure repreſents the veſſels of the liver and gall-bladder, and is taken from Euſtachius, Tab. 27. Fig. 1.

a. a The vena cava inferior, cut off both above and below the liver.
b. b. c. c. c. c The hepatic veins; b. b the larger ones, c. c. c. c the leſſer.
d The root of the ſplenic vein.
e The root of the meſenteric.
f The vena portarum.
g. h. i Three branches, into which the vena portarum divides itſelf, which diſtribute their branches through the whole ſubſtance of the liver.
k A branch of the vena portarum going to the gall-bladder.
l The hepatic artery cut off. It divides itſelf into two branches, which join themſelves with the branches g. i of the vena portarum, and diſtribute their branches together with theſe through the liver.
m A branch of the hepatic artery going to the gall-bladder, accompanying the branch k of the vena portarum.
n The ductus choledochus cut off.
o The ductus cyſticus likewiſe cut off.

p The

p The ductus hepaticus.

q. r. s Three branches into which the ductus hepaticus divides itſelf, which accompany the three branches g. h. i of the vena portarum, and moſt part of the other branches which thoſe diſtribute through the liver.

t. v. v. v. w Of theſe there can nothing certain be ſaid.

FIGURE XI.

This figure, which repreſents the blood-veſſels of the kidneys, the renes ſuccenturiati, bladder, penis, and teſticles, is taken from Euſtachius, Tab. 12. Fig. 1.

A *The right kidney is larger than Æ the left. On the upper part they are both almoſt equally high, but the left is a little higher, and the right on the lower part reaches farther down than the left, upon account of its larger ſize; wherefore the left may be ſaid to be higher than the right.*

B B. B B *The ureters.*

C. C *The right glandula renalis, in its form, figure, and ſubſtance reſembling the kidney, is larger than the left. The left renal gland is like the right, but not ſo large.*

D. D *The trunk of the vena cava.*

E. E *A part of the aorta.*

F *A ſmall vein which ariſes from the right ſide of the vena cava above the emulgent, and is diſtributed to the fat upon the right kidney.*

G *A ſmall vein, ariſing either from the cava, or from the upper part of the right emulgent; of which the branches* H *are beſtowed upon the right glandula renalis, and the branches* I *upon the upper part of the ſubſtance of the kidney.*

K *The right emulgent vein, which is lower, ſhorter, and more oblique than the left.*

Both in men and in monkeys there is commonly but one vein and one artery beſtowed upon each kidney. De Ren. Cap. XV.

The veins and arteries of the kidneys for the moſt part do not divide into branches, till after they have entered the cavity of the kidneys. De Ren. Cap. XVII.

L *The right emulgent artery.*

M *The left emulgent artery.*

N *The left emulgent vein, riſing higher up, longer, and leſs oblique than the right.*

The left emulgent vein ſends off branches both above and below. Above, for the moſt part, about the middle of its courſe, it ſends off the branch O, *and near its inſertion into the kidney, the other branch* R. *The one* O *ſends off branches to the upper part of the fat upon the kidney, as far as the middle of the kidney* Q, *and the renal gland* P, *as alſo to the diaphragm itſelf*; (⊙ Tab. 1. Fig. 1.) *which laſt are ſometimes very conſiderable, and anaſtomoſe beautifully with the veins of the diaphragus. But the poſterior and upper branch* R *is diſtributed to the lower part of the fat upon the kidney. The emulgent vein below, on the left ſide, in the middle of its courſe, produces the ſpermatic vein* S; *and the right emulgent ſometimes does the ſame, but very ſeldom. But it is ſtill ſeldomer to be obſerved in both together;*

and this is the diſtribution of theſe veſſels, which moſt frequently occurs. De Ren. Cap. XVI.

O *A ſmall vein ariſing from the upper ſide of the left emulgent, in the middle of its courſe, and terminating partly in* P, *ſent to the left glandula renalis, and partly in* Q, *which is beſtowed upon the upper part of the fat upon the kidney.*

R *Another ſmall vein ariſing from the upper ſide of the left emulgent near the kidney, and diſtributed to the lower portion of the fat upon the kidney.*

S *The left ſpermatic vein, produced from the emulgent.*

T *The right ſpermatic vein.*

U. V *The ſpermatic arteries.*

W. W. W Are theſe the ſpermatic veſſels connected together by the cellular membrane?

X. X. X. X Conjunctions of the ſpermatic arteries and veins.

Concerning thoſe branches which the ſpermatic arteries and veins ſend off in their courſe, before they reach the teſticles, ſee Ξ and 30, Tab. 1. Fig. 1.

Y. Y The ſpermatic chords, where the ſpermatic veſſels are wrapped up in the cellular membrane.

Z *The inferior meſenteric artery.*

a. a The iliac arteries.

b. b. b The iliac veins.

c. c The hypogaſtric veins.

d. d: e. e The roots of the branches of the hypogaſtric veins, which make A. A Tab. 1. Fig. 1.

f. f Veins, the ſame with X Tab. 1. Fig. 2.

g. g Veins ariſing from the hypogaſtric, which run upon the bladder.

h Another vein ariſing from the left hypogaſtric, which likewiſe runs upon the bladder, and frequently unites its branches with thoſe of the former one g. In place of this on the right ſide is

i A vein, which ariſing from the right iliac below the hypogaſtric, runs upon the right ſide of the bladder, joining itſelf likewiſe with the vein g.

k A conſiderable vein, compoſed of branches of the veins g. g. h. i united together before the proſtate.

l. m Veins ariſing from the hypogaſtrics, which unite with the vein k at the root of the penis. From this union is compoſed

n An azygous vein, which runs all along the back of the penis.

o. o The hypogaſtric arteries.

p. p The roots of the umbilical arteries.

q. q Branches of the hypogaſtric arteries, which accompany the veins f. f: The ſame with thoſe which accompany the veins X Fig. 2.

r. r: s. s Branches of the ſame hypogaſtric arteries, which run upon the bladder together with the veins g. g. h. i, and are united together by means of intermediate branches.

t u. t u Arteries which ariſe from the hypogaſtrics, and run upon the fore-part of the root of the penis; and afterwards u. u accompany the vein n upon the back of the penis.

v The bladder.

w The ligament into which the urachus is changed.

x. x The

x. x The proſtate.
y. y The head of the penis.
z The bulb of the urethra.
α The penis.
β. β The vaſa deferentia.
γ. γ The epididymes.
δ. δ The teſticles.

FIGURE XII.

This repreſents a view of the fore-part of the right teſticle, and is taken from Euſtachius, Tab. 12. *Fig.* 2.

a The teſticle.
b The vas deferens.
c The epididymis.
d One of theſe appears to be the ſpermatic vein, and the other the artery.
e. f. g Branches running upon the vas deferens.
f A branch, which makes f Fig. 13.
g A branch, which makes g Fig. 13.
h. h. h Branches, which run upon the tunica albuginea of the teſticle.

FIGURE XIII.

This repreſents a view of the back-part of the ſame right teſticle, and is taken from Euſtachius, Tab. 12. *Fig.* 5.

a The teſticle.
b The vas deferens.
c. c. c The epididymis.
d One of theſe veſſels appears to be the ſpermatic vein, and the other the artery.
e. f. g Branches running upon the vas deferens, of which
f Makes f Fig. 12.
g Makes g of the ſame Fig. 12.
h. h Branches running upon the epididymis.
i. i. i. i Branches running upon the tunica albuginea of the teſticle.

FIGURE XIV.

This repreſents the teſticle with the tunica albuginea taken away. It is taken from Euſtachius, Tab. 12. *Fig.* 6.

A The pulp of the teſticle laid bare. The lines with which it is marked, ſeem to point out a certain diviſion of it into different portions.
B. C The tunica albuginea. B Its external ſurface. C The internal, which is hollow, and contains the pulp of the teſticle.

D. D. D Veſſels, which go from the tunica albuginea to the ſubſtance of the teſticle.

FIGURE XV.

This figure on the right ſide, repreſents the branches of the vein, artery, and ureter, diſtributed through the kidney; and on the left, the kidney itſelf, with the emulgent vein and artery, and the branches of the emulgent vein. It likewiſe repreſents the diſtribution of the blood-veſſels on the bladder, and the parts of generation in women. It is taken from Euſtachius, Tab. XIII.

A. A The inferior vena cava.

B. B The aorta.

C The root of the vein ω Tab. 1. Fig. 1.

D The right emulgent vein. *The emulgent vein, after it has entered the kidney, divides itſelf into four or five branches* E. E. E. E. E; *which being again ſubdivided into ſeveral others, are variouſly diſtributed through the ſubſtance of the kidney; and being blended together, are united at* F. F. F. F. *&c. and at laſt terminate in very ſubtile and almoſt inviſible ramifications. For if you ſqueeze a kidney that has been cut, there will ooze out a great many drops of blood, diſcovering veſſels to be diſperſed through the ſubſtance of the kidney, which are inviſible to the ſight.*

G. H. H. H. H *The emulgent artery, which running along with the vein of the ſame name, is diſtributed in the ſame manner with it.*

The branches of the three ſyſtems of veſſels appear, the whole ſubſtance of the kidney being deſtroyed.

It is uſual both in men and in monkeys, for only one vein and one artery to be diſtributed to each kidney. De Ren. Cap. XV.

The veins and arteries of the kidneys for the moſt part are not divided into branches, till after they have entered the cavity of the kidneys. De Ren. Cap. XVII.

After both theſe veſſels, running obliquely towards the kidney of the ſame ſide, have entered its cavity, as I have ſaid above, each of them immediately divides into ſeveral branches, for the moſt part into four, and is diſtributed in a ſingular and ſurpriſing manner, but very different from what other authors have deſcribed, &c. — they reach almoſt the middle of the length of the kiduey, where their branches unite together ſeveral different ways; and being again divided into other ſmaller twigs, they are diſperſed in the form of ſmall capillary veſſels through the ſubſtance of the liver, and at laſt diſappear. De Ren. Cap. XVII.

The ureter (I mean in men, and not in dogs) as ſoon as it enters the kidney K, *becomes a little larger* L L. L L. L L, *and is divided into three principal branches like the veins and arteries. Theſe branches are diſtributed to the upper, lower, and middle part of the kidney; and the upper and lower ones are each of them divided into three other branches, but the middle one only into two. Theſe branches are ſhort and thick, and rather broader at their extremities, in the form of a cup, embracing the mammillæ of the kidneys, to which they adhere by way of a looſe cover. It frequently happens too, that the greateſt part of theſe branches are perforated in the middle, and there admit the mammilæ in the ſame manner as at their extremities.*

This

This is the distribution which most frequently occurs of the ureter through the kidneys. De Ren. Cap. XIX.

N *The left emulgent vein, rising higher up, longer and less oblique than the right.*

The vein which goes to the left kidney, sends off branches both above and below. Above, for the most part it sends off O *in the middle of its course, and* P *near its entry into the kidney. The first,* viz. O, *gives off lateral branches to the upper part of the fatty membrane, as far as the middle of the kidney lengthwise, as also to the glandula renalis* (P Fig. 11.) *and likewise to the diaphragm* (Θ Tab. 1. Fig. 1.) *These branches are sometimes pretty large, and unite very beautifully with the veins of the diaphragm. The other branch* P *is bestowed upon the lower part of the fatty membrane of the kidney. This same left emulgent vein below, in the middle of its course, produces the spermatic vein* T, *which is sometimes, though seldom, imitated by the right; and it is still more seldom that we observe this in both. This is the distribution of these vessels which most frequently occurs.* De Ren. Cap. XVI.

O *A small vein, which arises from the upper side of the left emulgent in the middle of its course, and is distributed* (partly to the diaphragm) *partly to the left glandula renalis, and partly to the upper portion of the fatty covering of the kidney. It makes* Θ Tab. 1. Fig. 1.

P *A small vein, arising from the upper side of the left emulgent near the kidney, distributed to the lower portion of the fatty covering of the kidney. It makes* Λ Tab. 1. Fig. 1.

Q *The left emulgent artery.*

R The left kidney.

S *The left ureter.*

T The left spermatic vein, arising almost from the middle of the lower side of the left emulgent.

V The right spermatic vein, arising from the vena cava.

W. X The spermatic arteries, arising from the fore-part of the aorta. Their branches, as well as those of the veins, which are sent off in their course to the uterus, tubæ fallopianæ, and ovaria, are here cut away. See Ξ and 30, Tab. 1. Fig. 1.

Y. Y. Y Do these point out the conjunctions and connections of the spermatic arteries with the veins, by means of little membranes?

Z. Z. Z Intermediate canals, by which the spermatic veins are united with the arteries.

a a. a a The spermatic veins and arteries running along the uterus and vagina. They send off a great many branches belonging to the ovaria, tubæ fallopianæ, uterus, and vagina. b. b. b. Point out the veins united likewise with one another.

c c. c c The iliac arteries.

d d. d d The iliac veins.

e. e The hypogastric veins.

f f. f f The hypogastric arteries.

g The root of the umbilical artery.

h h. i. k: h i. k Branches of the hypogastric arteries, going to the uterus, vagina, and bladder. We find their branches united with one another, as

l. l. l.

l. l. l. &c. We find them likewiſe united with the trunks of the ſpermatic arteries, as m. m. &c. They are alſo united with a branch of the ſpermatic artery as n, with a branch of the epigaſtric artery running along the round ligament of the womb to the uteres as o, and with a branch of the hypogaſtric vein as p; unleſs there is ſome fault in the engraving.

q. r. s: q r. s Branches of the hypogaſtric veins, which anſwer to the branches h h. i. k: h i. k of the arteries, and run along with them to the uterus, vagina, and bladder. We find them likewiſe frequently united together by their branches, as t. t. t. t. &c. as alſo with the trunks of the ſpermatic veins, as u. u. u, and with branches of the ſame veins, as w. w w.

x The conjunction of the branches of the hypogaſtric veins, which run upon the bladder, at the fore-part of the neck of the bladder; together with the branches y. y of the hypogaſtrics. From which conjunction is formed the vein z, running to the clitoris.

α. α Branches of the hypogaſtric veins, and β. β of the arteries, running as far as the nates.

γ. γ The epigaſtric arteries.

δ. δ The epigaſtric veins.

ε A branch of the right epigaſtric vein, which immediately divides into two; one of which, ζ, runs upon the round ligament of the womb to the uterus, and the other, η, goes on to the pubes, with the extremity of that ligament.

θ A branch of the right epigaſtric artery, which accompanying the vein ζ, runs on to the uterus by the round ligament.

ι A branch of the left epigaſtric artery, which divides itſelf into two; one of which, κ, runs on the uterus by the round ligament, and anſwers to the artery θ of the right ſide; and the other, λ, goes out with the extremity of the ſame ligament to the pubes, having none on the right ſide to which it anſwers.

μ A ſmall vein, which ſoon divides into two ν and ξ, accompanying the arteries λ and κ to the pubes and uterus. It anſwers to the vein ε of the right ſide, but does not ariſe from the epigaſtric like the other.

ο. ο The vena ſaphæna.

Γ The clitoris. Δ. Δ Its crura.

Θ. Θ The erectors of the clitoris.

Λ Part of the vagina, before the extremity of the urethra, terminated by the nymphæ.

Ξ The bladder.

Π. Σ The uterus. Π The neck. Σ The fundus.

Φ. Φ The fallopian tubes.

Ψ. Ψ The ovaria.

Ω. Ω The round ligaments of the womb.

FIGURE XVI.

This repreſents the ſubclavian veins, and the roots of the ſubclavian arteries, the roots of the jugular and axillary veins, and of the carotid arteries, the mammary veins and arteries, together with the intercoſtals, a ſmall portion of the iliacs, the

the epigaſtric veins and arteries, and the roots of the venæ ſaphenæ. It is taken from Euſtachius, Tab. 27. Fig. 12.

a The vena cava ſuperior cut off near the heart.
b. b The ſubclavian veins.
c The root of the vein f, Tab. 1. Fig. 1.
d. d The roots of the internal jugular veins.
e. e The roots of the external jugular veins.
f. f The roots of the *axillary* veins.
g The aorta cut off near the heart.
h The common root of the right ſubclavian and right carotid artery.
i. i The roots of the carotid arteries.
k. k The roots of the ſubclavian arteries.
l. l The mammary veins, which unite with the epigaſtrics. Their right divides into two, attending one artery, which runs on between them.
m. m The mammary arteries, accompanying the veins, and in like manner uniting themſelves with the epigaſtric arteries.
n. o. p. q. r. s: n o. p. q. r. s Branches of the mammary veins, with correſponding branches of the arteries, which join themſelves with the intercoſtals, n. n with the firſt, o. o with the ſecond, &c. They ſend off branches, which run through between the ribs to the breaſt, the roots of which only are here repreſented.
But when the other intercoſtal branches, which ariſe from the vena azygos, *and from which the above mentioned branches are produced, have arrived near the ſternum, then the branches of each vein running ſtreight down under the ſternum, meet with the other branches, and unite with them in ſuch a manner, as each of them reſembles one vein produced from a double origin. And beſides, having perforated the muſcles a little way from the ſternum, they ſend off other remarkable, or at leaſt not obſcure branches, from all the ſpaces between the cartilages, and likewiſe under the ſternum from the muſculi recti abdominis, which running below the ſkin, are variouſly combined and united with others, ariſing from the great external branch of the axillary vein.* De vena ſine pari, antigr. XVIII.
t. t: u u Two of the upper intercoſtal veins on each ſide, t. t the firſt, u. u the ſecond.
That venal arch, which ariſes from the back part of each trunk of the vena cava in the jugulum, near the origins of the jugular veins, and is reflected under the brachial artery, for the moſt part is divided into two branches, which being diſtributed through the two ſpaces between the upper ribs, unite with thoſe branches of the vein of the ſternum which run between the cartilages. De vena ſine pari, antigr. XV.
v. v: w. w The two uppermoſt intercoſtal arteries on each ſide, v. v the firſt, w. w the ſecond, accompanying the veins t. t: u. u.
x. x The iliac veins cut off both above and below the epigaſtrics.
y. y The iliac arteries cut off the ſame way.
z. z The epigaſtric veins, which unite themſelves with the mammaries, and ſend bran[illegible] to the muſculi recti abdominis, &c. The larger branches of the right one [illegible]rked, as are thoſe of the mammary with which they are united.

α. α. The

α. α The epigaſtric arteries, accompanying the veins z. z, and uniting themſelves with the mammary arteries.

β The conjunction of the larger branches of the left epigaſtric vein, where they are united with the branches of the mammary.

γ. γ The roots of the venæ ſaphenæ.

FIGURE XVII.

This figure repreſents the diſtribution of the vena azygos, *the jugulars and ſubclavians, with the roots of the vena cava, the axillaries, intercoſtals, emulgents, &c. It is taken from Euſtachius, Tab. 27. Fig. 6.*

a *The* ſuperior *vena cava cut off near the heart.*

b. b The ſubclavian veins.

c The root of the vein f, Tab. 1. Fig. 1.

d Is this the root of the vein q, Fig. 18.?

e The root of the vein l, Fig. 18.

f f. f f The internal jugular veins.

g. g The external jugular veins. Their branches ſent to the neck, and their conjunctions, both with one another, and with a branch of the left internal jugular, are here conſpicuous.

h. h The roots of the *axillary* veins.

i. i: k. k The roots of the two uppermoſt intercoſtal veins on each ſide. t. u: t. u Fig 16.

l m. n *The vein* l, *ariſing from the left trunk of the cava in the jugulum, is divided into two branches; one of which* m, *running down with the left phrenic nerve, is beſtowed upon the diaphragm and mediaſtinum; and the other* n, *being reflected under the brachial artery, is joined about the fifth vertebra of the thorax, with that branch of the vena* azygos, *which is reflected between the ſixth and ſeventh ribs, near their roots.*

o *The vena ſine pari.*

p *The diviſion of the vena ſine pari at the eigth* vertebra of the thorax, *as I have ſometimes obſerved it.*

q *The right, and* r *the left branch of the vena ſine pari, which is joined with the firſt lumbar vein* π. ϱ *of that ſide, ariſing below the emulgent.*

The vena azygos, towards the eighth vertebra of the thorax p, *or the tenth, is divided into two branches,* viz. *the right* q, *and the left* r; *theſe running downwards, paſs the diaphragm, and each of them is inſerted variouſly by one or more branches, either into the back part of the cava, near the origin of the emulgent vein, or into the emulgent itſelf, eſpecially the left (for I do not remember that I ever obſerved this happen in the right) backwards, upwards, and downwards,* viz. *at that part where the ſpermatic vein is ſent off, or likewiſe ſometimes into the next branches* π. ϱ *of the veins, which ariſe at the top of the ſecond vertebra of the loins.* De Renib. Cap. XVI.

The laſt branches of the ſame vein (viz. the azygos) *are for the moſt part mingled or joined with the firſt veins of the loins* π. ϱ, *ariſing at the ſecond of the lumbar vertebræ.* De vena ſine pari, antigr. XVII.

s *A branch of the vena azygos, which being reflected upwards, near the roots of the ribs, supplies* t *the third,* u *the fourth,* v *the fifth, and* w *the sixth intercostal space of the left side.*

Sometimes likewise the vena sine pari, towards the sixth vertebra of the thorax, sends off the branch s *to the left side, which running upwards, is joined at the fifth vertebra of the same with another branch* n, *arising from the left jugular, and from thence it ascends as high as the third intercostal space.* De vena sine pari, antigr. XIII.

x. y. z. α. β. γ The roots of the rest of the left intercostal veins, x of the seventh, y of the eighth, z of the ninth, α of the tenth, β of the eleventh, and γ of the twelfth.

δ. ε. ζ. η. θ. ι. κ. λ. μ. ν The roots of the right intercostal veins, δ of the third, ε of the fourth, &c.

ξ *The trunk of the vena cava, where the emulgents arise from it.*

ο. ο The roots of the emulgent veins.

π. ϱ The roots *of the first lumbar veins, rising below the emulgents.*

FIGURE XVIII.

This figure gives another view of the same vena azygos, together with the vena cava, the subclavians, the roots of the mammary, jugular, and axillary veins, as also those going to the mediastinum, pericardium, and diaphragm, and the roots of the upper hepatics. It is taken from Eustachius, Tab. 27. *Fig.* 3.

a Both the venæ cavæ cut off from the right auricle.

b The vena cava inferior, cut off, immediately below the two superior hepatic veins.

c The vena cava superior.

d. e The subclavian veins.

f The root of the vein f, Tab. 1. Fig. 1.

g. g The roots of the mammary veins. See l. l Fig. 16.

h. h The roots of the internal jugular veins.

i. i The roots of the external jugular veins.

k. k The roots of the *axillary* veins.

l. m. n. o. p *From the left branch of the great division of the vena cava in the jugulum, hard by the internal jugular vein, there arise two branches, which running upon the mediastinum on that side of the thorax, one of them,* viz. l, *joins with the veins of the diaphragm* m, *which run up to meet it; and the other,* viz n, *accompanying the left phrenic nerve, sends off the branch* o *to the fleshy portion of the diaphragm, while the one* p *communicates with the veins of the diaphragm, and is variously complicated both with the former branch, and with branches of the vein of the sternum, running upon the pleura,* &c. De vena sine pari, antigr. VIII.

q A vein belonging to the left portion of the mediastinum and pericardium.

r A vein belonging to the right portion of the mediastinum and pericardium, and joining itself by its branches with the branches s. t of the right phrenic vein, *which run up to meet it.*

u The right phrenic vein cut off.

Of the veins of the diaphragm, and eſpecially on the left ſide u, *the ſmall branches* s, t *belong not only to the pericardium, but likewiſe run up to the membranes which divide the thorax, and in ſeveral places are joined by branches of the vein of the ſternum, which run upon theſe membranes.* De vena ſine pari, antigr. VIII.

v The left phrenic vein cut off.

w. w The roots of the ſuperior hepatic veins; b. b Fig. 10.

FIGURES XIX. and XX.

Theſe two figures ſhew ſome of the veins of the right arm, eſpecially thoſe which are deep-ſeated. They are taken from Euſtachius, Tab. 8. *Fig.* 1. *and* 2.

A. a The right trunk of the vena cava in the jugulum.

B. b The root of the internal jugular vein.

C. c The root of the external jugular.

D. d The trunk of the humerary and axillary vein.

E. e The humerary vein.

F. f The diviſion of the humerary into two branches, a little above the bending of the fore-arm; the internal of which joined with a branch of the axillary, makes the common vein of the arm.

G A branch of the above internal branch of the humerary vein, which is joined with the deep-ſeated axillary vein, at the bending of the fore-arm.

H. h The root of the common ſuperficial vein of the arm.

i The axillary vein, together with the artery.

K. k The diviſion of the axillary vein into two branches, a little above the internal tubercle of the os humeri; the external of which, joined with another branch of the humerary, makes the common ſuperficial vein of the arm.

L. l The axillaris profunda, or deep-ſeated axillary vein, which for the moſt part ariſes above the middle of the length of the humerus, ſometimes higher, and ſometimes lower.

M The axillaris profunda, commonly double, a branch of it running down on each ſide of the artery. Sometimes both branches run into one, about the middle of its courſe, immediately dividing again, and uniting a ſecond time at the bending of the fore-arm; which Veſalius was ignorant of.

m The axillaris profunda, above the middle of the humerus, is divided into two branches, which run down on each ſide of the artery, and at the bending of the fore-arm unite again into one, not only as you ſee it repreſented in the twentieth figure, but ſeveral other ways; none of which is deſcribed nor painted by Veſalius.

N. n The axillaris profunda, at the bending of the fore-arm, ſends off ſome branches to the beginnings of the muſcles, ariſing from the internal tubercle of the humerus; and afterwards is joined either with the branch O, ſent from the humerary to form the common vein of the arm, or with o, which ariſes from the laſt mentioned vein; upon which ſubject Veſalius finds fault too pertly with Galen.

P. p The conjunction of the two above-mentioned veins, or the vena communis profunda; which appears to be divided into three branches, contrary to the opinion of Veſalius.

Q. q The deeper-ſeated branch of the vena communis profunda, running near the ulna, is not always ſingle, but ſometimes dividing into two, (which Veſalius takes no notice of) it runs down on each ſide of the artery, and paſſing under a muſcle inſerted into the eighth bone of the wriſt, and ſending off branches to the neighbouring parts, is diſtributed to the inſide of the hand, and gives off branches, ſometimes to all the fingers, ſometimes to four, or fewer of them.

R. r The more ſuperficial branch of the vena communis profunda, running near the radius, is frequently, as well as the laſt mentioned one, double, and going down under the long flexor muſcle of the thumb, and ſending off branches to the neighbouring muſcles, is ſpent upon the inſide of the thumb, or of the fore-finger.

S. s The middle branch of the vena communis profunda, which is neither deſcribed nor painted by Veſalius; running between the muſcles which bend the ſecond and third joint of the fingers, along the whole length of the radius, and the membranous ligament of the ulna, it gives off branches to the muſcles lying upon theſe parts; and ſometimes dividing into two, runs down on each ſide of the artery.

T. t A twig, ariſing at a quarter of the length of the ulna from its extremity, from the above-mentioned middle branch of the vena communis profunda; which perforating the membranous ligament of the radius and ulna, paſſes backwards, and is diſtributed to the muſcles which ariſe from the ulna, and to others which lie upon it. This ſmall branch, which is ſometimes double, and runs down on each ſide of the artery, is careleſly omitted by Veſalius.

U. u An artery running along with the axillary vein.

FIGURE XXI.

This figure repreſents ſome of the veins of the right arm. It is taken from Euſtachius, Tab. 27. Fig. 8.

a The vena cava ſuperior cut off near the heart.

b. b The ſubclavian veins.

c The root of the internal jugular vein.

d The root of the external jugular vein.

e *The axillary vein.*

f. f. f Branches, which belong to the breaſt, the ſide of the thorax, &c.

g Two veins, in the place of the *axillaris profunda*; which being united by means of the intermediate branch h, run afterwards into the one i near the bending of the fore-arm.

k *The external axillary*, Euſtach. de vena comm. prof. brach. antigr. IV.

l *A vein ſupplying the place of the humerary.*

I have obſerved this vein (viz. *the humerary) to be ſometimes entirely wanting; but from the external axillary, above the middle of the length of the humerus, was ſent off a ſmall branch, which running down in a winding courſe to the uſual place, ſupplied that of the humerary, and near the bending of the fore-arm, was joined by one branch* m, *with the external axillary, and with the other* (but here there are

two n) *with the internal, after the manner of the humerary.* De vena comm. prof. brach. antigr. IV.

o *The diviſion of the axillary into two branches, a little above the internal tubercle of the humerus; the exterior of which,* p, *being united with the other branch* m *of the humerary, conſtitutes the common ſuperficial vein* q. Expl. Fig. 19. and 20. K. k.

r *The* conjunction *of the common ſuperficial* vein with *the axillaris profunda.*

s *The* conjunction of a branch *of the common ſuperficial* vein with a branch *of the external axillary.*

FIGURE XXII.

This figure, repreſenting ſome of the veins of the left arm, is taken from Euſtachius, Tab. 27. Fig. 9.

a The vena cava ſuperior cut off near the heart.

b The root of the right ſubclavian vein.

c The left ſubclavian vein.

d The root of the vein f, Tab. 1. Fig. 1.

e The root of the internal jugular vein.

f The root of the external jugular vein.

I have met with the humerary vein ſometimes ſo ſmall, that unleſs I had been very intent, both with my mind and eyes, it would have altogether eſcaped me. De vena comm. prof. brach. antigr. IV.

h The conjunction of the humerary with the trunk of the *external axillary* vein; i, with a branch of it.

k *The axillary vein.*

l The vena *axillaris profunda.*

m The *external axillary* vein, Euſtach. de vena comm. prof. brach. antigr. IV.

n The conjunction of the *external axillary* vein, with the *axillaris profunda.*

o *The diviſion of the axillary into two branches, the exterior of which* p, uniting with the branch, i, of the humerary, forms the vein, q, which is joined by another branch, r, coming from the interior branch of the diviſion of the external axillary.

s A branch ariſing from the *common ſuperficial* vein, and joined with the *axillaris profunda.*

Beſides theſe, are repreſented the ſuperficiary veins, branches of the external axillary, of the humerary, and of the common ſuperficiary; which diſtribute their branches, frequently united together, upon the fore-arm and hand. Thoſe which are uppermoſt in the figure, running upon the internal part of the cubit; and the lowermoſt, upon the external part of it, and upon the hand to the extremities of the fingers.

FIGURE

FIGURE XXIII.

This figure, repreſenting the human fetus and ſecundines, is taken from Euſtachius, Tab. 14. Fig. 6.

A. B The chorion cut open and inverted. A Its external ſurface, B the internal.

C. C. D. D The amnios laid open. C. C Its external ſurface, D. D the internal.

E The fetus, in the ſame poſition which it commonly has in the uterus.

F. F. G The umbilical rope; F. F the part where it is bare, G the part where it appears through the amnios.

H. H. H. I. I Veins and arteries from the umbilical rope ramified upon the chorion; H. H. H appear to be the veins, and I. I the arteries, if we may judge from their ſize and union.

FIGURE XXIV.

This figure is intended principally to ſhew the umbilical vein and artery, with the canalis venoſus, and arterioſus, in the fetus. It is taken from Dr Trew's Diſſertatio epiſtolica de differentiis, &c. Tab. 2. Fig. 23.

a. a The vena portarum, running acroſs the liver.

b. c. d The ſinus of the vena portarum, the right portion of which, b, diſtributes its branches e. e. e. e, through the greater or right lobe of the liver; but the left one, c, goes to the leſſer or left lobe. At its entry it is enlarged into d. d, and ſends off the branches f. f. f. f. Below it receives the umbilical vein g. g, and above it ſends off the canalis venoſus, h, which below the branches of the vena cava i. i. i. i. i, collected from each lobe of the liver, is joined to the trunk of the inferior or aſcending vena cava, k. k, with which is united the trunk of the ſuperior or deſcending vena cava, l, compoſed of the two jugulars * *, and the vena azygos or ſine pari, m, both which trunks form the right auricle, n.

o The ſack of the left auricle, into which enter the branches of the right pulmonary vein, p, and of the left, q.

r The right branch of the pulmonary artery.

s. s The left.

t The canalis arterioſus, ariſing from the pulmonary artery near its bifurcation, and united with the arch of the aorta v. v.

x The right ſubclavian.

y The right carotid.

z The left carotid.

α The left ſubclavian.

β The deſcending aorta, divided at the iliac region on each ſide, into

γ. γ The umbilical artery, and

δ. δ The crural.

ε The arteria ſacra, ſent off at the diviſion of the aorta.

FIGURE

FIGURE XXV.

This figure repreſents the left auricle of the heart laid open, chiefly to ſhew the valve of the foramen ovale. Here likewiſe is laid open the canalis arterioſus. It is taken from Dr Trew, Diſſert. epiſt. &c. Tab. 4. Fig. 61.

a. a. a The margin of the ſack of the left auricle laid open,
b The left auricle.
c. c The anterior part of the ſeptum.
d. e. e. f The poſterior part of it, or the valve of the foramen ovale, covering its orifice entirely, through which at d and f the border of its anterior part appears conſpicuous.
g A ſmall probe thruſt in between the anterior and poſterior part of the ſeptum.
h The trunk of the inferior vena cava.
i Part of the right auricle.
k The vena ſine pari.
l The right pulmonary artery.
m The left.
n The canalis arterioſus laid open.
o The aorta deſcendens laid open.
p A prominent production between the inſertion of the canalis arterioſus into the deſcending aorta, and the great cavity of the arch of the aorta.
q. r. s Aſcending branches of the arch of the aorta.
t The trunk of the coronary vein running to the right auricle.

FIGURE XXVI.

This figure is intended principally to ſhew the paſſage of the umbilical vein into the liver, and the continuation of the internal iliac artery into the umbilical. It is likewiſe taken from Dr Trew, Diſſert. epiſt. &c. Tab. 5. Fig. 71.

a. a. a The breaſt compoſed of the ribs.
b The xyphoid cartilage.
c The ſtomach.
d The pylorus.
e A portion of the duodenum which is cut away.
f. f The leſſer lobe of the liver, turned up in ſuch a manner as to bring to view its concave inferior or interior ſurface, g.
h A part of the lower ſurface of the right lobe of the liver.
i A ſmall portion of the fundus of the gall-bladder.
k The umbilical vein entering the ſubſtance of the liver, between the right and left lobe.
l The left kidney.
m Part of the right.
n The right ureter.

o The

o The inferior vena cava.
p The extremity of the trunk of the deſcending aorta.
q. q Its diviſion into the iliac arteries.
r. r The external iliac.
s The internal. The continuation of which is
t. t The umbilical artery, mounting up near the ſide of
v. v The urinary bladder.
x. x The termination of the future navel.
y. y Part of the umbilical rope running in a ſpiral manner.
z The ſymphyſis of the os pubis.
* The prominent ſpine of the os ilium.

The End of the Syſtem of the Blood-veſſels.

A Com-

A

Compleat Syſtem

OF THE

BLOOD-VESSELS

AND

NERVES.

TABLE III.

THIS table, conſiſting of four figures taken from Euſtachius, repreſents a compleat general ſyſtem of the nerves.

FIGURE I.

This figure ſhews the ſubcutaneous nerves, ſome of which appear between the muſcles, ſome perforate them, and ſome come from behind. It is taken from Euſtachius, publiſhed by Albinus, Tab. 21. *No.* 2.

There is a prodigious number of nerves beſtowed upon the (fat); *and theſe as I I think I have obſerved in diſſecting, are not ſo frequently inſerted into the ſkin, as is commonly imagined; but for the moſt part being divided into ſlender fibres, terminate in the ſubſtance of the fat.* De multitud. Cap. XXXIII.

a A branch of the ſecond of the cervical nerves; a continuation of the branch f Fig. 3.

b A branch, which makes g of the ſame figure.

c Another branch of the ſecond of the cervical nerves.

d The portio dura of the auditory nerves, e a branch of it going to the zygomatic muſcles, f to the buccinator.

g The

g The recurrent nerve.

h. h Branches of the third pair of cervical nerves.

i. i. i Branches of the fourth pair of cervical nerves.

k. k Branches of the firſt pair of coſtal nerves.

l. l Branches of the ſecond pair of coſtal nerves.

m. m Branches of the third pair of coſtal nerves.

n. n Branches of the fourth pair of coſtal nerves.

o. o Branches of the fifth pair of coſtal nerves.

p. p Branches of the ſixth pair of coſtal nerves.

q. r. s. t. u. v. w. x. y. z. α. β. γ. δ. ε. ζ. η. θ. ι. κ. λ. μ. ν. ξ. ο. π. ρ. σ. ς. τ. υ. φ. χ. ψ. ω. Γ. Δ. Θ. Λ. Ξ. Π. Σ. Φ Branches of the coſtal nerves, and of the firſt of the lumbars. Of theſe θ makes T Fig. 3. ν makes V, ο makes W, χ makes Y, ω makes Z, and Λ makes Γ.

Ψ. Ψ Continuations of the branches Δ. Δ Fig. 3.

Ω. Ω A continuation of the nerve Ψ Fig. 2. A makes ε Fig. 3. B makes ζ, C makes η, D makes θ, E makes ι, F makes κ.

G Is the nerve Ω Fig. 2. but there is a fault in the ingraving; becauſe it ought to be drawn joined with the nerve Ω, in the ſame manner as the nerve Ω is joined with the one Ψ Fig. 2.

H. I In the left thigh; continuations of branches, in which the nerve Φ Fig. 2. terminates. The ſame in the right thigh.

K The nerves of the penis, running along the back of it.

L. L The crural nerves. Compare 6. 6 Fig. 2.

M. M Branches of the crural nerves going to the pectinei muſcles.

N. N Subcutaneous branches of the crural nerves. Of which the branches O. O having perforated the ſartorii muſcles, become ſubcutaneous P. P.

Q A branch of the crural nerve, which joins itſelf with the ſubcutaneous branch P.

R A branch of the crural nerve; a continuation of the branch 13 Fig. 2. it perforates the ſartorius, and afterwards joins itſelf with the nerve S.

S. S Branches of the crural nerves; continuations of the branches 12 and 14 Fig. 2. They go out between the ſartorii and graciles muſcles, and afterwards become ſubcutaneous.

T A branch correſponding to that ſent off from the nerve R in the left thigh.

V A continuation of the branch β Fig. 3.

W A continuation of the branch γ Fig 3.

X A continuation of the branch δ Fig. 3.

Y The extremity of the ſciatic nerve, going to the ſole of the foot.

Z A continuation of the branch π Fig. 3.

1 A continuation of the branch σ Fig. 3.

2 A continuation of the branch ς Fig. 3.

3. 4 Continuations of the branches 20 and 21 Fig. 2.

5 A continuation of the branch ο Fig. 3. It joins itſelf to the nerve 3, in the ſame manner as ξ with ρ Fig. 3.

6 Anſwers to the nerve 23 of the right arm. Is this a variation of it?

7. 7 Doubtleſs 7 and 16 are branches of one trunk, the root of which is lopped Fig. 2. in the right arm, between the origins of the ſecond of

the brachial nerves 28, and of the fourth 30. But the nerves 7. 7 make ς. ς Fig. 3.

8 A branch of the ſecond of the coſtal nerves, going out between the ſecond and third rib; one of whoſe branches 9 belongs to the back, and makes the branch S Fig. 3. and the other 10 runs down the arm, a branch of which laſt 11 makes υ Fig. 3.

12 Anſwers to the branch 10, and makes τ Fig. 3.

13 Anſwers to the branch 9, and makes X Fig. 3.

14 Seems to be the nerve 25 Fig. 2.

15. 15 The trunks of the fourth pair of brachial nerves, which run behind the greater condyles, 30. 30 Fig. 2.

16. 16 Certainly 16 and 7 are branches of one trunk, the root of which is cut off Fig. 2. in the right arm, between the origins of the ſecond of the brachial nerves 28, and of the fourth 30. But the branch 17 of thoſe nerves 16. 16 makes 13 Fig. 3. the branch 18 makes 14, the branch 19 makes 8, and the branch 20 makes 9.

21. 21 The trunks of the ſecond pair of brachial nerves, 28. 28 Fig 2.

22 A branch, which the firſt of the brachial nerves ſends off to join the ſecond. The ſame with 34 Fig. 2.

23 A branch like this I have ſeen ariſing from the axillary nerves.

24. 24 Continuations of the branches ψ. ψ Fig. 3.

25 The firſt trunk of the brachial nerves, emerging between the biceps and brachiæus internus; a continuation of the nerve 33 Fig. 2. Its branch 26 makes 16 Fig. 3.

27 A branch of the third trunk of the brachial nerves; a continuation of the branch 47 Fig. 2. Its branch 28 makes 17 Fig. 3. and the branch 29 makes 18 of the ſame figure.

30 33 A continuation of the branch ω Fig. 3.

31 This makes the branch 5 Fig. 3.

32 A continuation of the branch 4 Fig. 3.

33 A continuation of the branch 2 Fig. 3.

34 A continuation of the branch 3 Fig. 3.

35 A continuation of the branch 7 Fig. 3.

36 A continuation of the branch 11 Fig. 3.

37 Makes the branch 12 Fig. 3.

38 A branch of the fourth trunk of the brachial nerves; a continuation of the branch 51 Fig. 2.

FIGURE II.

This figure ſhews the diſpoſition of the internal nerves with regard to the muſcles, bones, &c. *It anſwers to Tab.* 19. *No.* 2. *of Euſtachius.*

a A branch of the firſt branch of the fifth pair of the brain, called the ophthalmic, going out of the orbit, and winding upon the forehead. This is B Fig. 5, 3, 1. Tab. 4.

b The

b The orbital branch of the ſecond branch of the fifth pair of the brain, going out at the foramen below the orbit, and diſtributing its branches in the lower part of the face below the eye. This is H Fig. 1. Tab. 4.

c A branch of the maxillary branch of the third branch of the fifth pair of nerves of the brain, going out by a canal in the lower jaw bone by the ſide of the chin, and beſtowing its branches upon the chin and lower lip.

As ſoon as this branch, together with the artery which accompanies it, has got down from the grinders to the leſſer teeth, it is divided into two; one part of it emerging by a foramen at the lower lip—which in man may eaſily be obſerved by an accurate anatomiſt. De Dentib. Cap. XXI.

d The trunk of the eighth pair of nerves of the brain, joined together with the recurrent nerve, in the ſame manner as f Fig. 2. Tab. 4.

e The trunk of the eighth pair of nerves of the brain cut off.

f The ſpinal recurrent nerve. g A branch of it belonging to the cleidomaſtoideus and ſternomaſtoideus muſcle. This is h Fig. 2. Tab. 4.

h The conjunction of the recurrent nerve, with the third of the cervical nerves. This is i Fig. 2. Tab. 4. Afterwards the recurrent winds itſelf backwards, ſee a Fig. 4.

i. i. i The left intercoſtal nerve.

k The upper cervical ganglion of the intercoſtal nerve.

l A branch of the ſecond cervical nerve, going to join the ganglion k.

m A branch of the firſt cervical nerve, going to the ſame ganglion k.

n. o Branches from the cervical nerves, going to the intercoſtal nerve.

p The ganglion of the intercoſtal nerve in the upper part of the thorax. I have not added any notes to thoſe which follow, as they appear plain at firſt ſight.

q. q. &c. Branches, by which the intercoſtal nerve is conjoined with the ſpinal nerves; viz. by the ſeventh and eighth of the cervical, and all the coſtal and lumbar. Of which thoſe that connect it with the loweſt of the coſtal and the ſucceeding four of the lumbar, paſs through the great pſoas muſcle.

r. s The extremity of the intercoſtal nerve, belonging to the firſt nerve r, and the ſecond s of the os ſacrum.

t A conſiderable nerve, ariſing from the intercoſtal near the vertebræ of the back; here indeed it has ſix beginnings, according to thoſe branches by which the intercoſtal is joined with the fourth, fifth, ſixth, ſeventh, eighth, and ninth dorſal. This is ω ω Fig. 2. Tab. 4. which nerve, here cut off, paſſes through the diaphragm into the abdomen, where it joins itſelf with the eighth pair of nerves of the brain, and with other branches of the intercoſtal nerve, &c. See Tab. 4. Fig. 2.

u A branch of the intercoſtal nerve. ⊙ Fig. 2. Tab. 4.

w. w. &c. Branches, by which the right intercoſtal nerve is joined with the ſpinal nerves. See φ. φ. &c. Fig. 2. Tab. 4.

x. y Thoſe branches of the right intercoſtal, which r. s repreſent of the left.

z. z Branches, repreſented by 6 Fig. 2. Tab. 4.

A. A Branches, repreſented by 7 Fig. 2. Tab. 4.

B. B The ſecond pair of cervical nerves.

 C. C Branches

C. C Branches, by which the ſecond pair of cervical nerves is joined with the third.

D. D The third pair of cervical nerves.

E. E Branches, by which the third pair of cervical nerves is joined with the fourth.

F. F The fourth pair of cervical nerves.

G. G The fifth pair of cervical nerves.

H I K. H I K L The phrenic nerves, ariſing by two originations, the one H from the fourth cervical pair, and the other I from the fifth. K. K Their trunks, the left of which, upon account of the point of the heart's being turned to the left ſide, is bended towards the left. L The extremity of the right, branched out upon the diaphragm. See 24. 25. 26. 27: 24. 25. 26. 27. Fig. 2. Tab. 4.

M. M The ſixth pair of cervical nerves.

N. N The ſeventh pair of cervical nerves.

O. O The eighth pair of cervical nerves.

P. P Branches of the firſt pair of dorſal nerves, going to join the eighth pair of cervicals. Compare 29. 29 Fig. 2. Tab. 4.

Q. R. &c. The coſtal branches of the dorſal nerves, which run according to the length of the ribs. Q Q The firſt, R. R the ſecond, S. S the third, T. T the fourth, U. U the fifth, V. V the ſixth, W. W the ſeventh, X. X the eighth, Y. Y the ninth, Z. Z the tenth, α. α the eleventh, β. β the twelfth. The eleventh on the left ſide penetrate the internal intercoſtal muſcles, which being removed on the right, the diſtribution of their branches between the internal and external intercoſtal muſcles appears. They ſend off branches, ſome of which belong to the intercoſtal muſcles, and others are diſtributed to the external parts. But the twelfth run firſt behind the great pſoas muſcles, and then upon the internal part of the quadrati lumborum and the tranſverſi abdominis, as is ſhewn in the left ſide.

γ Does this belong to the firſt pair of coſtal nerves?

δ A branch of the ſecond coſtal nerve, which paſſes through the external intercoſtal muſcle, immediately under the origin of the ſerratus magnus, which proceeds from the ſecond rib; afterwards it bends itſelf backwards according to the direction of the origin of the above ſerratus, and then diſtributes itſelf upon the outſide of the latiſſimus dorſi under the ſkin.

ε A ſimilar branch of the third coſtal nerve, paſſing through in the ſame manner, and diſtributed as the former.

ζ A ſimilar branch of the fourth coſtal nerve, which when it has got under the ſkin, winds partly backwards, and partly forwards and downwards.

η A ſimilar branch of the fifth coſtal nerve, which paſſes firſt through the external intercoſtal muſcle, then through the head of the external oblique, that part of it which riſes from the fifth rib, and afterwards runs along under the ſkin.

θ. ι. κ Branches of the ſeventh θ, the eighth ι, and the ninth coſtal nerve κ, diſtributed to the internal part of the external oblique muſcle of the abdomen.

λ A branch of the tenth coſtal nerve, which after having paſſed through the external intercoſtal muſcle and the tranſverſe, runs forwards between the tranſ-

verſe

verſe and internal oblique muſcles towards the rectus muſcle, and paſſes through it likewiſe by the aponeuroſes of the oblique muſcles to the parts below the ſkin.

μ A branch of the eleventh coſtal nerve, which follows the ſame courſe with that of the tenth, λ.

ν A branch of the tenth coſtal nerve, beſtowed upon the inſide of the internal oblique muſcle.

ξ A branch of the eleventh coſtal nerve, beſtowed the ſame way as the laſt, ν.

ο. π Theſe appear to be branches of the twelfth coſtal nerve, running between the tranſverſe and internal oblique muſcles.

ρ This ſeems to be a branch of the firſt pair of lumbar nerves, running likewiſe between the tranſverſe and internal oblique muſcles.

σ. σ Branches of the twelfth pair of coſtal nerves, which paſſing through the tranſverſe muſcles of the abdomen, make δ ε. δ ε Fig. 4. and running forwards, appear to be the branches, ο. π.

τ. τ The firſt pair of lumbar nerves.

υ A branch of the firſt pair of lumbar nerves, which paſſing through the tranſverſe muſcle of the abdomen, makes ζ Fig. 4. and running forwards, appears to be the branch, ρ.

Φ The ſecond pair of lumbar nerves. Its two branches which are lopped, make the roots of the nerve, Ψ.

χ The ſecond of the lumbar nerves joins with the third, and with the upper root of the nerve, 1.

Ψ A nerve, marked Φ on the left ſide, ariſing here by a double origin, one from the firſt pair of lumbar nerves, and the other from the ſecond.

ω The third of the lumbar nerves.

Γ The fourth of the lumbar nerves.

Δ A branch, which is ſent from the fourth pair of lumbar nerves to join the ſciatic.

Θ. Θ The fifth pair of lumbar nerves.

Λ. Λ The firſt pair of nerves of the os ſacrum.

Ξ. Ξ The ſecond pair of nerves of the os ſacrum. That on the right ſide is joined by an intermediate branch with the third.

Π. Π The third pair of nerves of the os ſacrum.

Σ. Σ The fourth pair of nerves of the os ſacrum.

Φ A nerve, whoſe origin is marked Ψ on the left ſide, emerging from the great pſoas muſcle, and going down along with it into the groin, being firſt however divided into two branches, which become ſubcutaneous, H. I Fig. 1. in the left thigh.

Ψ A nerve, which ariſes by a double origin from the ſecond lumbar nerve Φ, where its roots are cut through. This nerve is marked Ω Fig. 1.

Ω A branch of the crural nerve, which is conjoined into one with the nerve, ψ. This is marked G Fig. 1.

1. 1 A conſiderable nerve on each ſide, which ariſing by two roots, the one from the ſecond and third, and the other from the fourth of the lumbar nerves, runs down firſt under the great pſoas muſcle, then by the ſide of the pelvis to the

the upper part of the great foramen of the coxendix, where it divides into two branches, the anterior, 2, and the poſterior, 3.

2 The anterior, goes out immediately above the obturator muſcle by a ſinus, in the upper part of the great foramen of the coxendix; afterwards it runs down under the pectineus and adductor longus of the thigh, firſt contiguous to the obturator externus, then to the adductor brevis of the thigh, and afterwards to the magnus, giving branches to both the longus and brevis, and laſtly to the gracilis.

3. 3. 4 The poſterior, paſſes through the ſame ſinus, and running immediately down between the two obturators, gives a branch to the external; it goes out then by that external branch, 4, and runs down between the pectineus and the adductor longus and brevis on the fore-part, and the obturator externus and adductor magnus behind, terminating in branches in the adductor magnus.

5 The ſciatic nerve.

6. 6 The crural nerves. The right of which is compoſed of the third and fourth lumbar nerves conjoined, and a portion of the ſecond. In the left there is formed a kind of inſula, through which I have obſerved a ſlip of the great pſoas muſcle to paſs.

7. 7 Branches of the crural nerves going to the internal iliacs.

8. 8 The external branches of the crural nerves, which running down the thighs, give branches to the internal iliac muſcles, the muſculi recti of the leg, the vaſti interni, the crurei, and the vaſti externi.

9. 9 The internal branches of the crural nerves, which run down the thigh, and in their courſe give off branches to the vaſti interni.

10. 10 The roots of the nerves M. M Fig. 1.

11. 11 The roots of the nerves N. N Fig. 1.

12 Here the internal branch of the right crural nerve, emerging between the muſcles gracilis and ſartorius, is cut off, where it ſhould terminate in the nerve, S, on the right ſide, Fig. 1.

13 The root of that branch, which after it has perforated the ſartorius muſcle, makes R, Fig. 1.

14 The internal branch of the left crural nerve cut off, where it is about to penetrate between the gracilis and ſartorius muſcles, and to terminate in the nerve S, on the left ſide, Fig. 1.

15. 15 The branches 9. 9 Fig. 4. of the ſciatic nerves, which emerge forwards between the fibulæ and peronei longi, and then run downwards, firſt under the long extenſors of the toes, then between the long extenſors of the great toes, and the tibialis antici; afterwards they go out under the long extenſors of the great toes 16. 16, and continue their courſe to the extremities of the feet. They produce the branches, 17. 17. 18. 19. 20. 21: of which 17. 17 belong to the long extenſors of the toes; 18 to the peroneus longus; 19 is ſubcutaneous, and divides itſelf into two branches, which anſwer to the branches 20 and 21; 20. 21 are a variation of the branch 19, dividing itſelf ſooner into 20. 21, which make the ſubcutaneous ones 3 and 4, Fig 1.

22. 22 The fifth, ſixth, ſeventh, and eighth pair of cervical nerves, variouſly conjoined, together with acceſſory branches from the firſt of the coſtal nerves.

nerves. They firſt proceed to the axillæ, and afterwards terminate in the brachial nerves.

23 A branch, which ariſing from the above nerves in their courſe to the axilla, is diſtributed to the inſide of the pectoral muſcle.

24 A branch, which ariſing in the ſame manner from the above nerves, is beſtowed upon the inſide of the ſerratus anticus.

25. 25 A branch, which going off like the former from the above nerves, belongs to the muſcle called latiſſimus dorſi. Its progreſs under that muſcle, is ſhewn 41, Fig. 4.

26 A branch of the ſixth pair of cervical nerves, beſtowed upon the ſerratus magnus muſcle, running down according to the direction of that muſcle, and afterwards under the latiſſimus dorſi. Its progreſs under this laſt, is ſhewn 42, Fig. 4.

27. 28. 29. 30: 27. 28. 29 30 The four large brachial nerves, in which thoſe running on each ſide by the axillæ principally terminate. 27. 27 The firſt, which in a manner perforate the muſculi coracobrachiales. 28. 28 The ſecond, which run according to the length of the humerus as far as the bending of the arm, and from thence by the fore arm, down to the palm of the hand. 29. 29 The third, which run on the back part of the humeri, and make 43. 43, Fig. 4.

30. 30 The fourth, which run down according to the length of the humerus, to the poſterior part of the large condyle, and from thence by the fore arm to the palm of the hand.

31 A branch of the third brachial nerve 29, which running backwards, makes 37. Fig. 4.

32 The firſt of the brachial nerves 27, after it has run a little way under the coracobrachialis muſcle, makes its way through it, and afterwards runs under the ſhorter head of the biceps, giving branches to this, and the internal brachial muſcle; afterwards emerging between theſe two muſcles on the fore part of the arm, it becomes the ſubcutaneous nerve 25, Fig. 1. but here where it emerges, it is cut off, 33.

34 A branch of the firſt of the brachial nerves, which it ſends off to join the ſecond. The ſame in the left arm.

35. 35 Here the ſecond trunk of the brachial nerves 28. 28, give branches to the pronatores and teretes, the radiales interni, the ſublimes, and palmares longi muſcles.

36. 36 Conſiderable branches of the ſecond brachial nerves, which ſend off branches to the profundi, and the long flexors of the thumbs; and afterwards 37. 37 get in between theſe muſcles, and run down to the pronatores quadrati muſcles.

37 This ſecond of the brachial nerves, paſſes through the ligament of the wriſt on the inſide; afterwards 39 proceeds to the wriſt, where it divides into five branches, 40. 41. 42. 43. 44. Of which

40 The firſt, gives a branch to the third lumbrical muſcle, after which it divides itſelf into two; one branch running along the ſide of the ring finger next the middle finger, and the other along the ſide of the middle finger next the ring finger.

41 The

41 The ſecond gives a branch to the ſecond lumbrical, and afterwards divides likewiſe into two; one branch running along the ſide of the middle finger next the fore finger, and the other along the ſide of the fore finger next the middle finger.

42 The third gives a branch to the firſt lumbrical, and afterwards runs upon the ſide of the fore finger next the thumb.

43 The fourth goes to the thumb, and there dividing into two, runs upon each ſide of it.

44 The fifth, which is here cut off, gives a branch to the ſhort abductor of the thumb. And then it gets between the ſhort flexor and the muſculus opponens of the thumb, and belongs to the opponens.

45. 45 Continuations of the nerves 51 Fig. 4. The third pair of brachials 29. 29, after having run backwards by the ſhoulder bones from the axillæ, and then between the external brachial muſcles on the one ſide, and the long and ſhort heads of the bicipites on the other, and afterwards between the internal brachials and long ſupinators, emerge here 45. 45, between theſe laſt-mentioned muſcles, and thence proceed to the inſide of the fore arm, where having given off branches to the long ſupinators and external radial muſcles, they paſs through the ſhort ſupinators 46. 46, and become the nerves 52. 52, Fig. 4.

47. 47 The nerves here cut off, make 27, Fig. 1. and 10, Fig. 3.

48. 48 Branches of the fourth brachial nerve 30, going to the external brachial muſcle, 49. 49 to the internal ulnar, 50 to the profundus.

51 A branch of the ſame, which paſſes under the internal ulnar to the back part of the extremity of the fore arm, and makes the ſubcutaneous nerve 38, Fig. 1. and 15, Fig. 3.

After giving off this branch, the fourth brachial nerve runs before the ligament of the wriſt inwards, towards the palm of the hand, where it divides into the branches 52. 53. 54. Of which

52. The firſt remarkable one, ſpreading itſelf in the wriſt under the tendons of the profundus and the lumbricales muſcles, its branches are diſtributed principally to theſe, viz. the abductor of the little finger, the adductor of the fourth metacarpal bone, the interoſſeous muſcles, the adductor of the thumb, the ſhort flexor of the thumb, and the abductor of the fore finger.

53 The ſecond, after it has given off the ſubcutaneous branch which is here cut away, and another to the abductor of the little finger, runs along the back ſide of the little finger.

54 The third, dividing into two at the roots of the ring finger and little finger; one branch runs along the ſide of the little finger next the ring finger, and the other along the ſide of the ring finger next the little finger.

FIGURE

FIGURE III.

This figure ſhews the ſubcutaneous nerves, ſome of which run between the muſcles, ſome perforate them, and ſome run upon the fore-part of them. It is taken from Euſtachius, Tab. 23. No. 2.

There is a prodigious number of nerves beſtowed upon the (fat) *and theſe, as I think I have obſerved in diſſecting, are not ſo frequently inſerted into the ſkin, as is commonly imagined; but for the moſt part being divided into ſlender fibres, terminate in the ſubſtance of the fat.* De multitud. Cap. XXXIII.

a The portio dura of the auditory nerves. See d, &c. Fig. 2.

b The third of the cervical nerves, h Fig. 1.

c The recurrent nerve, g Fig 1.

d The ſecond of the cervical nerves, c Fig. 1. But here it joins itſelf with a branch of the nerve c.

e. e Branches of the ſecond cervical nerves. The left is a continuation of the nerve g Fig. 4.

f This branch makes a Fig. 1.

g A continuation of the branch b Fig. 1.

h. h Branches of the fourth pair of cervical nerves, which make i Fig. 1. The left perforate the cucullaris muſcle, to which thoſe on the right ſide anſwer.

i. k. l. m. n. o. p. q. r. s. t. u. v. w. x. y. z. A. B. C. D. E. F. G. H. I. K. L. M. N. O. P. Q Branches of the cervical, dorſal, and lumbar nerves, running backwards through the muſcles to the parts under the ſkin.

R. R Nerves perforating the infraſpinati muſcles. Are theſe produced from the nerves 36. 36 Fig. 4?

S A continuation of the nerve 9 Fig. 1.

T A continuation of the nerve θ Fig. 1.

V A continuation of the nerve ν Fig. 1.

W A continuation of the nerve ο Fig. 1.

X A continuation of the nerve 13 Fig. 1.

Y A continuation of the nerve χ Fig. 1.

Z A continuation of the nerve ω Fig. 1.

Γ A continuation of the nerve Α Fig. 1.

Δ. Δ Branches, which make Ψ. Ψ Fig. 1.

Θ. Λ. Ξ. Π. Σ. Φ. Ψ: Θ. Λ. Ξ. Π. Σ. Φ. Ψ Appear to be continuations of the nerves ν. ξ. ο. π. ρ. σ. ς Fig. 4.

Ω. Ω Continuations of the nerves ω. ω Fig. 4.

α. α Continuations of the nerves 1. 1 Fig. 4. Here it appears how the right and left differ from each other. The branch β of the left makes V Fig. 1. the branch γ makes W, and the branch δ makes X of the ſame Fig. 1.

ε A continuation of the nerve A Fig. 1.

ζ A continuation of the nerve B Fig. 1.

η A continuation of the nerve C Fig. 1.

θ A continuation of the nerve D Fig. 1.

ι A con-

ι A continuation of the nerve E Fig. 1.

κ A continuation of the nerve F Fig. 1.

λ. λ The ſciatic nerves.

μ. μ Branches of the ſciatic nerves, which run down upon the fore-part of the legs. They are the ſame with 9. 9 Fig. 4. and 15. 15 Fig. 2.

ν This ſupplies the defect of the nerve α, which does not run down upon the right, as it does upon the left leg.

ξ. ξ Branches of the ſciatic nerves; continuations of 13. 13 Fig. 4. which about that part certainly ariſe from the ſciatics. The left joins in with the nerve ϱ, in the ſame manner as 5 with 3 Fig. 1. The branch ο of the right, makes 5 Fig. 1.

π. ϱ Make 4 and 3 Fig. 1. and π makes z Fig. 1. The branch σ makes 1 Fig. 1. and the branch ς makes 2 in the ſame Fig. 1.

ς. ς Continuations of the nerves 7. 7 Fig. 1.

τ A continuation of the nerve 12 Fig. 1.

υ A continuation of the nerve 11 Fig. 1.

φ. φ Theſe ariſe from the branches of the third of the brachial nerves 37. 37 Fig. 4.

χ. χ Branches of the third pair of brachial nerves. They are the ſame with 47 and 50 Fig. 4. Their branches ψ. ψ make 24. 24 Fig. 1. and the branch ω makes 30 Fig. 1.

1. 1 Branches of the third pair of brachial nerves; one in the right arm, and two in the left; which makes a variation. Thoſe of the left are certainly 48. 49 Fig. 4. Their branch 2 makes 33 Fig. 1. the branch 3 makes 34, and the branch 4 makes 32 of the ſame, Fig. 1.

5 A continuation of the branch 31 Fig. 1.

6 A branch of the firſt trunk of the brachial nerves. It is the ſame with 25 Fig. 1. A continuation of the nerve 33 Fig. 2. its branch 7 makes 35 Fig. 1.

8 A continuation of the nerve 19 Fig. 1.

9 A continuation of the nerve 20 Fig. 1.

10 A branch of the third trunk of the brachial nerves. It is the ſame with 27 Fig. 1. A continuation of the nerve 47 Fig. 2. its branch 11 makes 36 Fig. 1.

12 A continuation of the nerve 37 Fig. 1.

13 A continuation of the nerve 17 Fig. 1.

14 A continuation of the nerve 18 Fig. 1.

15 A branch of the fourth trunk of the brachial nerves. It is the ſame with 38 Fig. 1. which is a continuation of the branch 51 Fig. 2. Here it joins in with a branch of the nerve 17.

16 A continuation of the nerve 26 Fig. 1.

17 A continuation of the nerve 28 Fig. 1.

18 A continuation of the nerve 29 Fig. 1.

FIGURE IV.

This figure, like the ſecond, ſhews the internal nerves; and is taken from Euſtachius, Tab. 20. No. 2.

a The recurrent nerve: A continuation of the nerve f, Fig. 2.

b A branch of the fourth pair of cervical nerves, making F on the left ſide, Fig. 2. which branch joins itſelf to the recurrent; and from the conjunction of theſe is produced the nerve c, belonging to the cucullaris muſcle.

d. d Branches of the fifth pair of cervical nerves, which perforate the middle ſcaleni muſcles, and afterwards running down upon the back, diſtribute their branches to the large rhomboidei.

e A poſterior branch of the ſecond of the cervical nerves on the right ſide, which emerging here between the inferior oblique and the larger rectus and poſticus of the head, gives a branch to the rectus, and runs on towards the complexus, which it is juſt going to perforate, where it is here cut off f.

g The ſame branch on the left ſide, leaving the complexus, and cut off where it is about to perforate the cucullaris, and become the ſubcutaneous nerve e, on the left, Fig. 3.

h A branch of the firſt of the cervical nerves.

i. k. l. m. n. o The laſt branches of the cervical nerves; i of the third, l of the fourth, n of the fifth, o of the ſixth. But k is a branch which derives its origin from the nerve i; and m in the ſame manner derives its origin from the nerve l. At leaſt this ſeems to be the caſe to me, and I am certain that I always meet with ſuch nerves here.

p. q. r. s More poſterior branches of the cervical nerves, which perforate the ſerratus poſticus ſuperior, the rhomboideus major and minor, and the ſacrolumbalis: p a branch of the third, q of the fourth, r of the fifth, and s of the ſixth. They afterwards likewiſe perforate the cucullaris muſcle, and become ſubcutaneous, Fig. 3.

t. u. &c. Poſterior branches of the dorſal nerves: t of the firſt, u of the ſecond, w of the third, x of the fourth, y of the fifth, z of the ſixth, A of the ſeventh, B of the eighth, C of the ninth, D of the tenth, E of the eleventh, F of the twelfth, G of the firſt of the loins, H of the ſecond, I of the third, K of the fourth.

L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z. Γ. Δ Branches of the dorſal and lumbar nerves, paſſing through the muſcles adjacent to thoſe parts near the ſpine. Thoſe branches which are given off from the ſacrolumbales, are marked W. Y. Z.

Θ. Λ. Ξ. Π. Σ. Φ. Ψ. Ψ. Ω. Ω. α. α. β. β. γ Branches of the coſtal nerves, which penetrate the intercoſtal muſcles towards the back. Θ Of the ſixth pair, Λ. Ξ of the ſeventh, Π. Σ of the eighth, Φ. Ψ. Ψ of the ninth, Ω. Ω α. α of the tenth, β. β. γ of the eleventh.

δ. ε: δ ε Branches of the twelfth pair of coſtal nerves, σ. σ Fig. 2. which perforate the tranſverſe muſcles of the abdomen, and then run between theſe and the internal oblique forwards.

 ζ. ζ Branches

ζ. ζ Branches of the firſt pair of lumbar nerves, υ. υ Fig. 2. which likewiſe perforate the tranſverſe muſcles, and afterwards run forwards between theſe and the internal oblique.

η A branch of the firſt of the nerves of the os ſacrum, going out at the firſt of the poſterior foramina of that bone.

θ A branch of the ſecond of the nerves of the os ſacrum, going out at the ſecond of the poſterior foramina of that bone. Here it appears how it receives a twig from a branch of the firſt, η.

ι A branch of the third of the nerves of the os ſacrum, going out at the third of the poſterior foramina of that bone.

κ A branch of the fourth of the nerves of the os ſacrum, going out at the fourth of the poſterior foramina of that bone.

λ A nerve, going out between the os ſacrum and coccygis.

μ. The extremity of the cauda equina, going out at the extremity of the canal of the os ſacrum.

ν. ξ. ο. π. ρ. σ. ς The nerves Θ. Λ. Ξ. Π. Σ. Φ. Ψ. Fig. 3. ſeem to be continuations of theſe. Query, whether ν, which is going out between the common heads of the ſacrolumbalis and longiſſimus dorſi muſcles, is the firſt branch of the nerve η cut off? and ξ, the firſt branch of the nerve θ? and ο, the firſt of the nerve ι? &c.

τ. τ The ſciatic nerves.

υ. υ Branches of the ſciatic nerves, which running between the two ligaments on each ſide of the os ſacrum belonging to the iſchia, diſtribute their branches to the fat, on the ſides of the anus.

χ. χ Branches of the ſciatics, which running under the great glutei muſcles, give off to them the branches Ψ. Ψ; then below the glutei they become ſubcutaneous Ω α. Ω α, Fig. 3. and the lopped branches ω. ω make Ω. Ω, Fig. 3. and the branches 1. 1 make α. α of the ſame figure.

Here there appears a variation of the nerves φ χ. φ χ which ariſe on the left ſide from a common root; and alſo a variety in their branches.

2. 2 Branches of the ſciatics, going to the glutei magni.

3. 3 Branches of the ſame nerves, which ſoon dividing into two, one of them, viz. 4, belongs to the internal part of the long head of the biceps of the leg; and the other, 5, to the internal part of the ſemitendinoſus.

6. 6 Branches of the ſame, which ſend off others to the internal part of the ſemitendinoſi and ſemimembranoſi muſcles.

7. 7 Branches ſtill of the ſciatic nerves, belonging to the internal part of both heads of the bicipites muſcles of the legs.

8. 8 More branches of the ſciatics, beſtowed upon the ſhort heads of the above bicipites muſcles.

9. 9 Branches of the ſame, running to the fore-part of the thighs, and conſtituting the nerves 15. 15, Fig. 2.

10 The root of that branch which becomes ſubcutaneous at the calf of the leg, and conſtitutes ν, Fig. 3.

11. 12. 13. 14: 11. 12. 13. 14 Branches ſtill of the ſciatic nerves. Query, whether 11. 11 go to the external heads of the gemelli, &c. and 12. 12 to the internal? 13. 13 their roots, which make ξ. ξ, Fig. 3? 14. 14

to

to the poplitei muſcles? &c. The ſciatics certainly produce theſe nerves about the hams.

15. 15 Branches of the ſciatics, going to the tibiales poſtici.

16. 16. 16 Branches of the ſame, going to the long flexors of the toes.

17. 17. 18. 18 Other branches, going to the long flexors of the great toes.

19 A branch going to that head of the long flexor of the toes, which it receives in the ſole of the foot.

20 A branch of the ſciatic nerve, which produces the branches 21. 22. 23. 24. 25.

21 Directs its courſe, and diſtributes its branches, to the adductor of the great toe, the interoſſei muſcles, &c.

23 Is ſpent upon the abductor of the little toe.

24 Runs along the external ſide of the little toe.

25 Proceeds to the roots of the fourth and fifth toes, where it divides itſelf into two; one branch running upon the ſide of the fifth toe next the fourth, and the other upon the ſide of the fourth toe next the fifth.

26 A branch of the ſciatic, which runs along the inſide of the great toe, and produces the branch 27 going to the abductor of the great toe.

28 A branch, which proceeds to the root of the great toe, and of the ſecond, where it divides into two; one branch running along the ſide of the great toe, next the ſecond toe, and the other along the ſide of the ſecond toe, next the great toe.

29 Goes to the firſt lumbrical muſcle.

30 A branch, which goes to the root of the ſecond and third toes, and there dividing into two; one branch runs upon the ſide of the ſecond toe, next the third; and the other upon the ſide of the third, next the ſecond.

31 Goes to the ſecond lumbrical muſcle.

32 A branch, which runs to the root of the third and fourth toes, where it divides itſelf into two; one branch going along the ſide of the third toe, next the fourth, and the other upon the ſide of the fourth, next the third.

33 Goes to the third lumbrical muſcle.

34. 34 Branches of the fifth pair of cervical nerves, which proceed by the lunated notches of the ſcapulæ, near the proceſſus coracoidei; and then give off the branches 35. 35, which run along under the ſupraſpinati muſcles, and ſupply them with branches. Afterwards 36. 36 wind themſelves about the ſpines of the ſcapulæ, run under the infraſpinati muſcles, and give off branches to them.

37. 37 Branches of the third of the brachial nerves, 31 Fig. 2. whence ariſe the branches 38, going to the teres major, and 39 to the deltoid. Is 40 the root of the nerve ϕ, Fig. 3?

41 A part of the nerve 25, Fig. 2. running down between the latiſſimus dorſi and ſerratus magnus.

42 A part of the nerve 26, Fig. 2. running down between the ſame muſcles.

43. 43 The trunks of the third brachial nerves, which run behind the bones of the ſhoulder. They are the ſame with 29. 29, Fig. 2.

44. 44:

44. 44: 44. 44 Branches of the above trunks going to the external brachial muſcles; 45. 45 to the long, and 46. 46 to the ſhort.

47 Seems to be the root of the branch χ in the left arm, Fig. 3.

48. 49 Seem to be the roots of the branches 1 in the left arm, Fig. 3. Certainly that trunk gives off ſuch branches.

50 Seems to be the root of the branch χ in the right arm, Fig. 3.

51 This third trunk of the brachial nerves running on, makes 45, Fig. 2. 'Tis the ſame in the left arm.

52. 52 The trunks 46. 46 of the third of the brachial nerves, Fig. 2. which having perforated the ſhort ſupinator muſcles, direct their courſe to the external part of the fore-arm; where after giving off branches to the neighbouring muſcles, they make 53. 53, going under the great extenſors of the thumbs, and alſo the indicators; below which they emerge 54. 54.

55 The fourth of the brachial nerves, 30 Fig. 2. It gives off to the profundus the branches 56. 57. 58.

A Com-

A

Compleat Syſtem

OF THE

BLOOD-VESSELS

AND

NERVES.

TABLE IV.

THIS table, which conſiſts of ſixteen different figures, repreſents the nerves of the particular parts, and is taken from Euſtachius, Du Verney, Haller, and Vieuſſens. The firſt five are from Euſtachius, Tab. 18. with Albinus's explanation.

FIGURES I, III, IV, V.

Theſe four figures reſemble one another, with this difference; that in the third, fourth, and fifth, are repreſented only ſome of thoſe nerves ſeparately, which the firſt figure contains altogether. For in the third, fourth, and fifth figures, the others are cut away, in order that theſe may appear diſtinct; which in the firſt, on account of their number, cannot ſo eaſily be diſtinguiſhed.

They repreſent the baſis of the brain, with the beginning of the medulla ſpinalis, divided lengthwiſe through the middle, together with the nerves.

Figure 1. 3. 4 5. a The proceſſus mammillaris.

1. 3. 4. 5. b. c. d The optic nerve. c That part of it which is before the conjunction of the two together. d One ſide of that conjunction, divided longitudinally through the middle.

1. e The

1. e The retina.

4. 3. 1. 5. f The trunk of the third pair of nerves of the brain, called the motores oculorum, arising near the fore-part of the proceſſus annularis. It produces the following branches,

4. 3. 1. g Belonging to the adductor muſcle of the eye.

4. 3. 1. h To the inferior oblique.

4. 3. 1. i To the deprimens.

4. 3. 1. k Which divides into two, of which

4. 3. l The one goes to the muſculus attollens of the eye, and

4. 3. m The other belongs to the levator of the upper eye-lid.

5. 3. 1. 4. n The fourth pair of nerves of the brain, which is called the pathetic, belonging to the ſuperior oblique muſcle of the eye.

4. 1. 3. 5. o The ſixth pair of nerves of the brain, belonging to the adductor muſcle of the eye, arising near the fore-part of the corpus olivare and pyramidale.

1. 4. p A branch of the intercoſtal nerve, which joins itſelf with the ſixth pair. See ξ. ξ Fig. 2.

1. 3. 4. 5. q The trunk of the fifth pair of nerves, ariſing from the ſide of the proceſſus annularis. It divides itſelf into three branches, the firſt, ſecond, and third.

5. 3. 1. 4. r The trunk of the firſt branch of the fifth pair of nerves, called the ophthalmic branch.

5. 3. 1. s A branch of the ophthalmic, which runs upon the inſide of the bony orbit, near the noſe, and produces the branches t. u. w. x. Of which does

5. 3. 1. t Belong to the ciliary nerves?

5. 3. 1. u. w Eſcapes by a ſmall foramen, at the conjunction of the os frontis with the planum, from the bony orbit to the frontal ſinus, and from thence into the cavity of the cranium; afterwards u paſſes into the noſe through a foramen of the os cribriforme.

5. 3. 1. x Goes out at the great angle of the eye, and at the root of the noſe twiſts itſelf upwards towards the forehead.

5 3. y (The ſame in 1) the diviſion of the ophthalmic into the branches z. A. B. Of which

5. 3. 1. z Goes out to the forehead near the greater angle of the orbit.

5. 3. 1. A. B Having accompanied the branch z almoſt to the eye-brow, it goes out at a foramen in the ſuperciliary ridge of the frontal bone; and B winds itſelf upon the forehead, making a, Fig 2. Tab. 3.

1. 3. 4. 5. C The ſecond branch of the fifth pair of nerves. It produces the following branches, viz.

1. D The palatine, which ſinks firſt down by a canal, made by the upper maxillary bone and the os palati; and from thence going out E, it twiſts itſelf forwards to the palate, and runs upon it.

1. F The naſal, which gets into the poſterior part of the noſe, through a foramen which is made by the os palati and the baſis of the multiforme, at the poſterior, ſuperior, and lateral part of the noſe.

1. G The

1. G The orbiter, which runs by the lower part of the orbit, and going out at the foramen below it, becomes H; winding itſelf, and diſtributing branches to the parts of the face below the eye, as it is repreſented Tab. 3. Fig. 2. b.

1. 3. 4. 5. I The third branch of the fifth pair of nerves, which divides itſelf into K the anterior, and L the poſterior.

1. 3. 4. 5. K The anterior branch of the third branch of the fifth pair of nerves produces

4. 1. 5. M A branch, which runs upon the outſide of the buccinator muſcle.

5. 1. 4. N Going to the temporal muſcle.

4. 1. 5. O To the pterygoideus externus.

4. 1. 5. P To the maſſeter.

1. 3. 4. 5. L The poſterior branch of the third branch of the fifth pair of nerves produces

3. 1. Q The lingual branch.

3. 1. R The maxillary, which enters the canal of the lower jaw, and runs along it.

It ſends off very few branches, or almoſt none at all. De Dent. Cap. XX.

3. 1. S A nerve, which leaves the maxillary branch R, before it enters the canal of the lower jaw, and runs by the inſide of the maxilla forwards, to the mylohyoideus muſcle, and the ſecond belly of the digaſtric, &c.

1. 3. T The chorda tympani, joined on one ſide with the maxillary branch R, and on the other with the portio dura of the ſeventh pair of nerves Z.

From another branch of the fourth pair of nerves of the ſame viſcus (viz. the brain) *is ſent off a ſmall twig, which being reflected near the bony canal I have already deſcribed, enters the cavity of the ear, in which the bones of hearing are contained, and adheres obliquely to the tympanum, and afterwards to the malleus, above the inſertion of its muſcle; nor does it end there, but running on, it perforates the os petroſum behind the meatus auditorius; then being reflected downwards, runs on a little way, and at laſt joins itſelf with the ſmaller branch or portio dura of the fifth pair of nerves of the brain, and is firmly united with it.* De aud. org.

1. 3. V A branch of the poſterior branch L of the third branch of the fifth pair of nerves, which joins itſelf with the portio dura of the ſeventh pair.

1. 3. 4. 5. W The portio dura of the ſeventh pair of nerves, which are called the auditory, ariſing from the fore-part of the external ſide of the corpus olivare. But firſt

1. X Attending the portio mollis, runs along with it by the common canal in the os petroſum. Afterwards getting out, it bends itſelf at Y, where it is about to enter the aqueduct of Fallopius. Through this aqueduct it runs to Z, and by the way joins itſelf with the chorda tympani. After it leaves the aqueduct, it joins itſelf at α, with the branch V of the third branch of the fifth pair of nerves.

1. 3. 4. 5. γ The portio mollis of the ſeventh pair of nerves, called the auditory, ariſing from the fore-part of the corpus olivare, near the external ſide of the portio dura.

The fifth pair of nerves of the brain are by no means compoſed only of two nerves, as ſome anatomiſts imagine; but each trunk is made up of two uneqal portions, of which the longeſt is hollowed, and receives the other into a groove as it were, which has not been obſerved by others; and, joined together in that manner, they run on obliquely forwards and outwards, to the extremity of a ſinus in the os petroſum, which ſeems to be made on purpoſe for them. There the leſſer branch, leaving the larger one, enters a foramen which is proper to it, and in a very extraordinary winding courſe, which it is not neceſſary at preſent to deſcribe, it gets out of the cranium. But the larger one ſeems to terminate in three different portions, at ſome diſtance from one another; the chief of which runs into a ſmall foramen, that leads into the cochlea. De aud. org.

1. δ This appears to be the cochlea, to which the portio mollis muſt belong.

1. 3. 4. 5. ε The eighth pair of nerves, ariſing by ſeveral originations from the external ſide of the corpus olivare.

1. 3. ζ. η. θ. ι The recurrent nerve, ariſing by the three different beginnings ζ. η. θ, and ι afterwards joining itſelf with the trunk of the eighth pair.

Three branches of the ſixth pair of nerves of the brain, taking their origin from the medulla ſpinalis. Oſſ exam.

1. 3. 4. 5. κ The ninth pair of nerves of the brain, ariſing by different origins from the poſterior part of the external ſide of the corpus pyramidale.

1. 3. 4. 5. λ The firſt pair of ſpinal nerves.

1. 3. 4. 5. μ The ſecond pair of ſpinal nerves.

1. 3. 4. 5. ν The third pair of ſpinal nerves.

1. 3. 4. 5. ξ The medulla ſpinalis.

1. 3. 4. 5. ο The corpus pyramidale.

1. 3. 4. 5. π The corpus olivare.

1. 3. 4. 5. ϱ The medullary trunk, proceeding from the cerebellum to the medulla oblongata, and making the proceſſus annularis.

1. 3. 4. 5. σ The proceſſus annularis.

1. 3. 4. 5. τ The crura medullæ oblongatæ.

1. 3. 4. 5. υ A little ſpace, between Willis's gland, the crura medullæ oblongatæ, and the annular protuberance.

1. 3. 4. 5. φ Willis's gland, behind the infundibulum.

1. 3. 4. 5. χ A cineritious body, ſituated in the poſterior angle of the conjunction of the optic nerves, between the crura of the medulla oblongata. In it is the inferior orifice of the third ventricle of the brain, from which goes the infundibulum.

1. 3. 4. 5. ψ. ω The lobes of the brain, ψ the anterior, ω the middle lobe.

1. 3. 4. 5. Γ The cerebellum.

FIGURE II.

A A. A A. B. B The baſis of the brain. A A. A A The anterior lobes, B. B the middle ones.

C. C The

C. C The baſis of the cerebellum.

D. D The extremities of the tranſverſe proceſs of the atlas.

E. E The prominent margins of thoſe cavities of the atlas, which receive and ſupport the coronoid proceſſes of the os occipitis.

F. F The medullary trunks, which are ſent from the cerebellum to the medulla oblongata, and make the annular protuberance.

G. G The corpora pyramidalia.

H. H The corpora olivaria.

I. I. I The annular protuberance.

K. K The crura medullæ oblongatæ.

L The little ſpace between the annular protuberance, the crura medullæ oblongatæ, and Willis's gland.

M Willis's gland, ſituated behind the infundibulum.

N A cineritious body, ſituated in the poſterior angle of the conjunction of the optic nerves, between the crura medullæ oblongatæ. In this body is the inferior orifice of the third ventricle of the brain, from which goes the infundibulum.

O. O The proceſſus mammilares.

P. P The optic nerves. Q Their conjunction.

R. R. R The ſame, before they are conjoined.

S. S The third pair of nerves of the brain, called the motores oculorum, ariſing near the anterior part of

T. T The fourth pair of nerves of the brain, called the pathetic.

V. V The fifth pair of nerves of the brain, ariſing from the ſide of the annular protuberance.

W. X. Y: W. X. Y The three branches into which it divides: W the firſt, X the ſecond, Y the third.

Z. Z The ſixth pair of nerves of the brain, ariſing near the anterior part of the corpora olivaria and pyramidalia.

a a. a a The portiones duræ of the ſeventh pair of nerves of the brain, ariſing from the fore-part of the external ſide of the corpora olivaria.

b. b The portiones molles of the ſame ſeventh pair of nerves, ariſing from the ſide of the corpora olivaria, immediately behind the former.

c. c Appear to be the cochleæ, to which the portiones molles belong.

d. d The eighth pair of nerves of the brain, ariſing by different originations from the poſterior part of the external ſide of the corpora olivaria.

e. e The recurrent nerves, joining themſelves to the eighth pair of the brain.

f. f The trunks of the eighth pair of nerves of the brain, joined with the trunks of the recurrent nerves.

g. g. g The recurrent nerves, after they have left the eighth pair of the brain.

h A branch of the recurrent, which belongs to the cleidomaſtoideus and ſternomaſtoideus muſcles.

i A branch of the recurrent, which joins itſelf with the third pair of cervical nerves. Compare h Fig. 2. Tab. 3.

k The branchy extremity of the recurrent, beſtowed chiefly upon the cucullaris muſcle.

l l l. l l l The trunks of the eighth pair of nerves of the brain.

m. m The lingual branches of the eighth pair, which are principally ſpent upon the root of the tongue, and alſo upon the parts next to it of the pharynx, &c.

n. n The upper branches of the eighth pair of nerves belonging to the larynx, which run in between the os hyoides and the thyroid cartilage to the internal part of the larynx; where o joins itſelf with the laryngal recurrent, or acceſſorius of Willis.

p The right acceſſorius of Willis, or the inferior, right recurrent, ariſing by a double beginning from the eighth pair of nerves on the right ſide.

q The conjunction of the right acceſſory nerve, with the right intercoſtal.

r The left acceſſory of Willis, or the inferior, left recurrent, ariſing by a double origin from the left trunk of the eighth pair of the brain, but lower than the right.

s A nerve, which joins the left cardiac with the left acceſſory nerve.

t The branchy extremity of the acceſſory nerves, ſent to the thyroid glands, the pharynx, the arytenoid, poſterior cricoarytenoid, and thyrearytenoid muſcles.

u. w. x The right cardiac nerve, ariſing by a double origin: w the one from the right acceſſory nerve, x the other from the right trunk of the eighth pair of the brain.

y. z. α The left cardiac nerve, ariſing likewiſe by a double origin; z the one from the left trunk of the eighth pair of nerves of the brain, α the other from the left intercoſtal nerve, as ſeems to appear from the figure.

β A nerve, by which the cardiacs are joined with one another.

γ The branchy extremity of the cardiac nerves, going to the heart and the parts belonging to it.

δ. δ. δ The pulmonary nerves, ariſing from the eighth pair.

ε. ζ: ε. ζ The diviſion of the eighth pair into two branches, which preſently unite again, and ſo form a kind of inſula, which is ſmaller on the left ſide than on the right.

η. η. η Branches by which the trunks of the eighth pair are united, both before and behind the lower part of the œſophagus.

θ A branch of the left trunk of the eighth pair, which runs upon the upper part of the ſtomach from the œſophagus to the pylorous, and gives off branches to the ſtomach, eſpecially to the fore-part of it.

ι The branchy extremity of the left trunk of the eighth pair of nerves, belonging to the fore-part of the ſtomach on the left ſide, near the lower orifice of the œſophagus.

κ The branchy extremity of the right trunk of the eighth pair of nerves, belonging to the poſterior part of the ſtomach on the left ſide, near the lower orifice of the œſophagus.

λ A branch of the right trunk of the eighth pair of nerves, which anſwers to the branch θ of the left, running after the ſame manner, and giving off branches chiefly to the back part of the ſtomach.

The ſixth pair of nerves of the brain, ſends off branches both to the orifice of the ſtomach, and to the other viſcera. De Dent. Cap. XXV.

μ The right trunk running down behind the ſtomach, and afterwards joining itſelf with the left intercoſtal nerve at ν.

ξ. ξ The upper extremity of the intercoſtal nerves, where they are joined with the ſixth pair of nerves of the brain.

ο. π: ο. π Two branches, into which the trunks of the intercoſtal nerves divide themſelves; but afterwards they unite, and ſo leave a kind of ſlit, through which paſſes the internal carotid artery, which together with thoſe branches paſſes into the cavity of the cranium, by the canal in the os petroſum.

ρ. ρ The trunks of the intercoſtal nerves.

σ. σ The upper cervical ganglions of the intercoſtal nerves.

τ τ τ τ τ. τ τ τ τ τ τ The trunks of the intercoſtal nerves, running down near the ſpine, along the neck, thorax, abdomen, and pelvis.

υ. υ. &c. Ganglions of the intercoſtal nerves, which are not all marked, for fear of rendering the figure obſcure.

φ. φ. φ. &c. Branches, by which the intercoſtal nerves are united with thoſe of the ſpine.

χ. χ: χ. χ The conjunction of the laſt of the intercoſtal nerves, with the firſt and ſecond trunk of thoſe which go out by the fore-part of the os ſacrum.

ψ. ψ. ψ. ψ. ψ: ψ. ψ. ψ. ψ. ψ. ψ Branches of the intercoſtal nerves, which united together, make

ω. ω ω Remarkable trunks, which running down along the vertebræ of the back, perforate the diaphragm, and afterwards are blended and united together both of them with Γ. ν the right trunk of the eighth pair of nerves of the brain, and with one another at Δ.

Θ. Θ Branches of the intercoſtal nerves, which unite themſelves with the branches of the trunks ω. ω.

From the trunks ω. ω of the intercoſtal nerves, the eighth pair of nerves of the brain, their branches, and conjunction, are produced the following nerves, belonging to the kidneys, the glandulæ renales, the liver, ſpleen, ſtomach, inteſtines, &c.

From that plexus of nerves, near the origins of the meſenteric arteries, ariſe ſeveral branches variouſly complicated, part of which are ſent to the liver near the entry of the vena portarum, and likewiſe to the gall-bladder, and part go to the kidneys and glandulæ renales, and not only ſpread themſelves externally upon theſe parts, but ſome of them enter the kidneys together with the arteries, and are diſtributed through their ſubſtance. De Renib. Cap. XXI.

Λ. Λ. Λ. Λ Branches going to the liver, whence a great many are likewiſe ſent off to the duodenum. The conjunction of theſe branches is alſo repreſented.

Ξ. Ξ The right gaſtro-epiploic nerve, which runs from the right ſide, along the fundus of the ſtomach, where the omentum adheres to it. It produces the branches Π. Π. Π belonging to the ſtomach, and Σ. Σ. Σ. Σ. Σ to the omentum.

U. U. U A nerve going to the right kidney, and the renal gland, as I think.

Φ. Φ Branches

Φ. Φ Branches, which I imagine go to the ſpleen.

Ψ The left gaſtro-epiploic nerve, which runs from the left ſide, along the fundus of the ſtomach, where the omentum adheres to it, and gives off the branches Ω. Ω to the ſtomach, 1. 1. &c. to the omentum.

2. 2. 2. 2 Branches, which ſeem to me to go to the left kidney, and glandula renalis.

3. 3. 3: 3. 3. 3 Branches, which belong to the teſticles, and accompany the ſpermatic veſſels.

4. 4. 4. &c. Branches, which ſeem to me to go to the meſentery and inteſtines.

5. 5. 5. &c. Branches, which uniting together here and there, run down upon the bodies of the vertebræ of the loins and the os ſacrum, as far as the bottom of the pelvis; where they join themſelves with the branches which they ſent off, 6 with the third pair of thoſe which go out from the anterior foramina of the os ſacrum, and 7 with the fourth.

8. 8. 8. &c. Branches, which the above 5. 5 receive from the trunks of the intercoſtal nerves.

9. 9. 9. &c. Do theſe branches go to the meſocolon, and the left part of the colon?

10. 10. 10 The ninth pair of nerves of the brain, called the lingual; ariſing by ſeveral fibres from the ſide of the corpora pyramidalia.

11. The branchy termination of the trunk of the above ninth pair of nerves, diſtributed to the digaſtric muſcle of the lower jaw, the hyogloſſus, geniohyoideus, geniogloſſus, the tongue, &c.

12. 12 A conſiderable branch of the ſame ninth pair, which runs down upon the neck, and is diſtributed to the ſternothyroideus muſcle, coracohyoideus, ſternohyoideus, &c.

13 A branch, by which the ſecond of the cervical nerves is joined with the branch 12 of the ninth pair.

14. 14. &c. The cervical nerves. 14. 14 The ſecond pair, 15. 15 the third, 16. 16 the fourth, 17. 17 the fifth, 18. 18 the ſixth, 19. 19 the ſeventh, 20. 20 the eighth.

21 A branch, by which the ſecond of the cervical nerves is joined with the third.

22. 22 Branches, by which the third pair of cervical nerves is joined with the fourth.

23 A branch of the fourth pair of cervical nerves, which joins in with the recurrent. See Tab. 3. Fig. 4.

24. 25: 24. 25 The origins of the phrenic nerves: 24 ariſing from the fourth pair of cervical nerves, and 25 from the fifth.

26. 26 The phrenic nerves. The right of which runs down in a ſtreight courſe, without being turned to a ſide by the heart; but the left is turned obliquely outwards, from the oblique inclination of the heart to that ſide.

27. 27 The branchy extremity of the phrenic nerves in the diaphragm.

28. 28 The union and blending together of the four loweſt of the cervical nerves, and the firſt of the dorſal, from which are produced the brachial nerves.

29. 30. 31. 32. 33. 34. 35. 36. 37. 38: 29. 30. 31. 32. 33. 34. 35. 36. 37. 38 The dorſal nerves.

40. 41.

40. 41. 42. 43. 44 : 40. 41. 42. 43. 44 The lumbar nerves.

45. 46. 47. 48 : 45. 46. 47. 48 The nerves of the os ſacrum.

49 A branch, by which the ſecond of the ſacral nerves is joined with the third.

50. 50 : 51. 51 Nerves; 50. 50 from the laſt of the lumbars, 51. 51 from the fourth; which being united together, join in with the firſt pair of ſacral nerves, three on the right ſide, and four on the left, to form the ſciatics.

52. 52 The ſciatic nerves.

I have put no marks upon the vertebræ and their ligaments, nor on the os ſacrum and coccygis; both as they are ſufficiently diſtinguiſhed at firſt ſight, and the figure is rather too full of marks already.

FIGURE VI.

This figure is taken from Du Verney's treatiſe De Organo Audibus (Tab. 11. Fig. 1.) *and repreſents the baſis of the human brain, cleared of all the blood-veſſels, in order to ſhew the origin of the ten pair of nerves, which come from the medulla oblongata. Here all that part of the ſubſtance of the brain, which Willis calls its poſterior limbi, is cut off; that is, the inciſion was carried through that part, where the great lateral branch of the carotid artery runs through the ſubſtance of the brain, in the interſtice of its limbi. This inciſion is of uſe for diſplaying the true origin of the firſt of the nerves, and placing the cerebellum, which when the brain is inverted, reſts upon its poſterior limbi, in the ſame plane with the brain itſelf; which was abſolutely neceſſary, in order to expoſe to view the true figure of the medulla oblongata, and the origin of all the nerves which take their riſe from it.*

A. A The anterior ſurface of the brain inverted.

B. B The cerebellum.

C. C The place where a part of the brain is cut away, which is only repreſented on one ſide, but ought to be conceived as done in the ſame manner on the other.

D. D The *corpora ſtriata*, or according to others *tabulata*, which conſtitute the beginnings of the medulla oblongata. Their inferior ſurface is here repreſented, and a certain portion of them is cut away with the brain.

E. E The thalami nervorum opticorum.

F The medulla oblongata, the two crura of which are here united, though Willis has deſcribed them ſeparate, and at ſome diſtance from one another.

G The proceſſus anularis.

H. H The firſt pair of nerves, or the *olfactory*; ariſing from the baſis of the *corpora ſtriata*, by a kind of medullary cord h. h, which grows thicker where it is bended near the optic nerves.

I. I The ſecond pair of nerves, or the *optic*, as they appear from their origin to their egreſs through the cranium.

K. K The third pair of nerves, called the *oculorum motores*.

L. L The fourth pair, or the *pathetic*.

M. M The fifth pair.

N. N The

N. N The ſixth.

O. O The ſeventh, or the *auditory*; divided at its origin into two branches, of which the larger and upper one is called the *portio mollis*.

P. P The eighth pair of nerves, ariſing from the medulla under the prominences marked y. y.

Q. Q The ninth pair, which are only repreſented on one ſide, and turned back, that the figure might not be obſcured. On the other ſide their origin only is marked.

R. R The tenth pair of the *medulla oblongata*, which Willis has confounded with the firſt of the ſpinal nerves.

S The medulla cut off, where it begins to enter the vertebræ.

T. T Two nerves, which ariſe from the *medulla ſpinalis* within the vertebræ of the neck, and climb up to the brain to be joined with the eighth pair.

U The infundibulum.

X. X Two medullary prominences, which Willis took for glands.

Y. Y Other two medullary prominences, reſembling the figure of an olive, which the ſame author has called the *corpora pyramidalia*.

Z. Z Two ſmall nervous twigs, ariſing from the medulla oblongata, and united with thoſe nerves of the ſpine which run up to join the eighth pair. Sometimes there are two or three of theſe little nervous twigs on each ſide

FIGURE VII.

The chief intention of this figure is to repreſent the egreſs of the nerves, ariſing from the brain. Though there are ſeveral parts beſides belonging to that viſcus, ſuch as ſinuſes and arteries, which are here repreſented. It is taken from Haller, Faſcicul. Anat. 1. *Tab.* 6.

A. A The tranſverſe proceſſes of the dura mater.

B The *longitudinal* ſinus of the dura mater, its poſterior extremity bifurcated.

C The *fourth* ſinus bifurcated, having one crus inſerted into the right tranſverſe ſinus, and the other into the left.

D The remains of the falx of the brain.

E. E The great veins of the tranſverſe proceſſes of the dura mater.

F Veins opening into the tranſverſe ſinuſes of the brain, in the tentorium cerebelli, which conſtantly appear.

G The orifice of the *poſterior occipital* ſinus.

H. H The right and left poſterior occipital ſinuſes, with their crura, opening into the foſſæ jugulares.

I The falx of the cerebellum.

K. K The *great tranſverſe* ſinuſes.

L. L The foſſæ jugulares.

M. M The *inferior petrous* ſinuſes, opening into theſe foſſæ.

N. N The *ſuperior petrus* ſinuſes.

O. O The *vena cerebelli*, opening into theſe ſinuſes.

P. P The *anterior*, *inferior*, *occipital* ſinuſes, not conſtant.

Q. Q Their

Q. Q Their extremity going out with the ninth pair of nerves.
R. R The *anterior and ſuperior occipital* ſinus, conſtant.
S. S Its anaſtomoſis with the receptacula cavernoſa and the circular ſinus.
T The mouth of the ſuperior petrous ſinus, opening into the cavernous.
V. V The receptacles, or *cavernous ſinuſes.*
X. X The *tranſverſe* ſinus of the *ſella turcica.*
Y. Y *Ridley*'s *circular* ſinus.
Z. Z The *anterior* veins of the *brain*, opening into the cavernous ſinuſes, conſtant.
a. a The principal artery of the dura mater.
b. b The vein correſponding to it.
c The place where it paſſes through the cranium by a foramen proper to it.
d. d The *carotid* arteries in the receptacle, their extremities cut off, where they enter the brain.
e. e A ſmall artery ſent off in the receptacle, to go to the fifth pair of nerves.
f. f The origin of the ophthalmic artery from the carotid.
g. g The poſterior clinoid proceſſes, which are angular.
h The criſta galli.
i. i The frontal ſinuſes.
k. k The *fifth* pair of nerves, paſſing through the dura mater.
l The third branch of the *fifth* pair of nerves.
m The ſecond branch of the ſame *fifth* pair.
n The firſt branch of the *ophthalmic.*
o The *fourth* pair of nerves.
p The trunk of the *third* pair.
q A partition ſeparating the *fifth* from the *ſixth* pair of nerves.
r The *ſixth* pair.
s The origin of the *intercoſtal* nerve.
t. t The entry of the *ſeventh* pair into the dura mater.
u. u The firſt roots of the *eighth* pair.
x. x The ſecond root of the *eighth* pair.
y. y The ninth pair of nerves.
z The foramen of the medulla ſpinalis.

In the right eye.

After the bony orbit and a great part of the cheek bone has been taken away.
1. 1 The *ophthalmic* artery.
2. 2 Its exterior or lachrymal branch, which accompanies the nerve of the ſame name.
3. 3 Its interior branch, which is ſent to the noſe.
4. 4 Branches going to the tunica ſclerotica, ſome of which paſs on to the uvea.
5. 5 Portions of the levators of the eye-lid and of the eye.
6 The extremity of the levator of the eye-lid.
7 The *lacrymal* gland.
8 The *optic* nerve.
20. 21. 22. 23. 24. 25. 26. 27. 28. 29 The ſame as in the other eye.

In the left eye.

9 The *trochlea.*
10 The muſcle called *pathetic.*
11 The levator muſcle of the eye.
12 The *internal* muſcle of the eye.
13 The abductor, cut away.
14 The *ſuperior* branch of the *third pair* of nerves, going to the levators of the eye, and of the eye-lid.
15 The remaining trunk of the *third pair.*
16 The *exterior* branch, going to the inferior oblique muſcle.
17 The *middle* one, going to the inferior ſtreight muſcle.
18 The *interior* one, going to the internal ſtreight muſcle.
19 A branch going to the ophthalmic *ganglion.*
20 The *ſuperior* branch of the firſt branch of the fifth pair of nerves.
21 The *exterior* twig of the ſame branch.
22 The *interior.*
23 The *exterior* branch of the fifth branch of the fifth pair of nerves.
24 Small branches going out to the face by foramina in the cheek bone.
25 Small branches going to the lacrymal gland.
26 The *inferior* branch of the firſt branch of the fifth pair.
27 A twig of the ſame, going to the *ganglion.*
28 A ſmall branch, going to the *noſe.*
29 A ſmall trunk creeping forwards.
30 The *ophthalmic* ganglion.
31 The ſmall ciliary nerves.
7. 8 The ſame as in the right eye.

FIGURE VIII.

This figure is taken from Haller (Faſcic. Anat. 1. Tab. 2. Fig. 2.) and repreſents a back view of the lower part of the medulla oblongata, placed in the baſis of the cranium, and the whole ſpinal marrow produced from it, in its natural ſituation and connection within the ſheath of the vertebræ, (which ſheath however does not come in ſight) and freed from all its involucra, except the pia mater. Here it is to be remarked, that the poſterior part of the os occipitis, as far as the paſſage of the vertebral artery, and the nerve which attends it, as alſo the back part of the vertebræ, is taken away; but the anterior part of the os occipitis and os petroſum, may be viewed a little raiſed, and inclined backwards. The lobes however of the cerebellum with their vermiform proceſs are inclined forwards, in order that the fourth ventricle, and the parts contiguous to it, may be ſeen more diſtinctly.

A. A That ſpace which contains the lobes of the cerebellum turned forwards, together with
B Their vermiform proceſs faintly delineated.
C. C. C. C Portions of the os petroſum and os occipitis, covered with the dura mater.

D. D Part of the medulla oblongata, from which the medulla ſpinalis is continued downwards.

a. a White medullary ſtriæ, ariſing from the ſulcus of the fourth ventricle, and going out on each ſide to the portio mollis of the ſeventh pair of nerves.

b. b The fourth ventricle.

c. c Its longitudinal ſulcus continued into the chink of the calamus ſcriptorius.

E. E The medulla ſpinalis.

d Two eminences of the medulla ſpinalis, into which the lower extremity of it terminates. They are almoſt round, entirely ſmooth, and ſend off no nervous filaments.

e. e A ligament, produced from the lowermoſt border of the pia mater, together with blood-veſſels, which are not here repreſented, running along the middle of the cauda equina, to the extremity of it, and lower, and ſo reſembling an azygous or ſolitary nerve, which at laſt diſperſes itſelf in the os coccygis. It is ſupported by little pins, that you might have the clearer view of it.

f. f The ganglion of the twenty-ninth pair of nerves.

g. g The ganglion of the thirtieth pair, from which on the left ſide, beſides the nerve which is proper to it, there goes out another ſmall nerve marked h, which forms likewiſe a kind of ganglion proper to itſelf.

F. F The ſheath of the medulla ſpinalis produced from the dura mater, here cut though the middle, and pinned back on each ſide.

G. G The ſeventh pair of nerves.

H. H The eighth pair, which paſs through a double foramen in the dura mater on the right ſide, and through a ſingle one on the left.

I. I The acceſſory nerve from its firſt origin between the poſterior filaments of the ſixth and ſeventh pair, which is more diſtinctly expreſſed in the left ſide than in the right, as far as its egreſs through the dura mater. In the left ſide it paſſes through a hole in the dura mater that is proper to itſelf; but on the right it paſſes together with the lower filaments of the eighth pair of nerves. The portions of this nerve which are covered with nervous filaments, are marked with ſmall points. On the ſide

i. i Are its little roots, of which four are filamentous, ariſing from the medulla oblongata, and ſix ariſe diſtinct, from the medulla ſpinalis; part of them very conſpicuous, and part of them likewiſe covered with nervous filaments, where they are marked with ſmall points.

k. k The communicating nervous filaments, paſſing obliquely from the loweſt filaments of one nerve to the higheſt of the other; where it is to be remarked, that they are not ſufficiently well expreſſed, becauſe that portion of each of them which runs along with the nerve next above is not expoſed to view, but only the communicating twig.

K K The ninth or laſt pair of nerves of the brain, conſiſting of four different filaments on each ſide. Thoſe on the right ſide unite, and paſs through a common hole of the dura mater; but on the left they paſs through two diſtinct holes, at a little diſtance from one another.

L The origin of the denticulated ligament, or its firſt adheſion to the dura mater, from which downwards all its tooth-like proceſſes are viewed in their

 proper

proper order l. l inſerted into the dura mater at the interſtices between t nerves; but they are only repreſented on one ſide.

M. M The corpora pyramidalia poſtica } in ſome meaſure repreſented.
N. N The corpora olivaria poſtica }

O. O The vertebral arteries going out at their proper foramina with the nerve 1. P (1. C.)

m. m Nervous filaments coming from the fore-part of the medulla, and with others from behind, paſſing through the holes of the dura mater. They are expoſed to view here and there, but not perfectly 23).

n The place where the nervous filaments begin to run together, and where the baſis of the cauda equina is formed. There the remaining portion of the medulla ceaſes to appear in its natural ſituation.

o The place where the nervous filaments ceaſe to ariſe.

p. p The origin of the filaments 24, which compoſe the cauda equina, and ariſe from the medulla ſpinalis. Theſe filaments are turned a little back on each ſide, in order that the nature and figure of the medulla lying in the middle might be ſufficiently diſplayed.

q. q. q The cauda equina.

1 as far as 30 The poſterior origins of the thirty pair of vertebral nerves, together with their exits through the dura mater.

1. C to 8. C The nervous filaments of the eighth pair of cervical nerves. Obſerve, that there are two filaments of the firſt pair of nerves on the right ſide, blended with the acceſſory nerve, from which, a little higher up, at the place of the poſterior origin of the firſt pair, a filament goes to the foramen of the vertebral artery 25).

1. D to 12. D The twelfth pair of dorſal nerves.

1. L to 5. L The The five pair of lumbar nerves.

1. S to 5. S The five pair of ſacral nerves.

The eight following figures are all taken from Vieuſſens's Neurographia Univerſalis, reduced to a leſſer ſcale, and repreſent a compleat ſyſtem of the nerves which ariſe from the medulla ſpinalis, and are diſtributed to the various parts of the body.

FIGURE IX.

This figure (which makes Tab. 29. of Vieuſſens) repreſents the diſtribution of the eighth pair of nerves, and of the two intercoſtals.

A The trunk of the fifth pair of nerves.

B The large anterior branch of the fifth pair.

C The large poſterior branch of the ſame fifth pair.

D The trunk of the ſixth pair.

a. a The trunk of the intercoſtal nerve.

E The trunk of the eighth pair.

b The acceſſory nerve, which at its going out of the cranium, is included in the ſame common coat with the nerve of the eighth pair, and therefore ſeems

to

to be blended with it. But preſently after it has got out, it parts from the other, to run on to Θ. Θ. Θ.

c The ninth pair of nerves.

d Branches of the ninth pair, which are beſtowed upon the glands behind the maxillæ.

e The tenth pair of nerves.

f A branch of the fifth pair, which is diſtributed to the tongue, except thoſe twigs of it g. g. g, which are beſtowed upon the maxillary glands.

h A branch of the portio dura of the ſeventh pair, which unites itſelf with the branch f of the fifth pair, and together with it is diſtributed through the tongue.

i The firſt pair of cervical nerves.

k A ſmall branch of the firſt pair of cervical nerves, which unites itſelf with the branch f of the above fifth pair, and together with it is diſtributed through the tongue.

l A ſmall branch of the ſame firſt pair of cervical nerves, of which the twig m is united with the ſecond pair of cervicals. But the twig n is beſtowed upon the oblique muſcles of the head.

o A ſmall twig, by the interpoſition of which a communication is made between the eighth pair and the portio dura of the ſeventh.

p A branch of the eighth pair, of which the twig q is united with the upper cervical gangliform plexus of the intercoſtal nerve, and afterwards is inſerted into the long muſcle of the neck. But the twig r beſtows its fibrils upon ſome of the muſcles of the larynx, pharynx, and os hyoidis, as was mentioned above, in deſcribing the eighth pair.

s A twig of the branch p, repreſented here a little thicker in proportion than it naturally is, and united with the recurrent nerve.

F. F The thyroid cartilage, making the fore-part of the trachea.

G. G The trachea cut tranſverſely, a little above the lungs.

H The cervical gangliform plexus of the eighth pair of nerves, to which a branch of the firſt pair of cervicals ſends off a twig.

t A branch of the eighth pair, of which the twigs u. u here cut off, are joined with the ſecond pair of cervicals, and the reſt are beſtowed upon the ſcalenus, maſtoideus, coracohyoideus, ſternohyoideus, and ſternothyroideus muſcles, and to the neighbouring teguments, excepting ſome which twiſt round the veſſels of the neck, eſpecially the jugular veins, and terminate in the neighbouring membranes.

I The gangliform thoracic plexus of the eighth pair of nerves.

x The right recurrent nerve.

y A branch of the eighth pair on the left ſide, which beſides ſending off the left recurrent nerve, diſtributes the twig z to the upper cardiac plexus, and the twig 2 to the heart, and its left auricle.

3 A twig of the one 2, which is ſpent upon the heart, towards the left ſide.

4 Another twig of the ſame, which is diſtributed to the left auricle.

5 A branch of the eighth pair on the right ſide, which ſends off the twig 6 to the coats of the aorta.

7. 7 Twigs.

7. 7 Twigs of the branch 5 cut off, which are ſpent upon the internal ſubſtance of the lungs.

8 A twig of the ſame branch 5, which terminates in the upper cardiac plexus.

9 The trunk of the branch 5, of which the twig 10 is inſerred into the right ſide of the pericardium, behind the heart; but the twig 11 ſurrounds the deſcending vena cava in the form of a ring, where it opens into the upper part of the right auricle of the heart, and terminates in it, after ſending off the twigs 12. 12. 12 to the aboveſaid right auricle.

13. 13 Branches of the eighth pair of nerves, whoſe twigs, which are here repreſented cut off, being complicated together, form the pulmonary plexuſes.

14 A twig of the eighth pair on the right ſide, which is beſtowed upon the left auricle of the heart.

15. 15. 15 Twigs of the eighth pair on the left ſide, beſtowed partly upon the coats of the œſophagus, and partly upon the heart.

16. 16 Two ſmall gangliform plexuſes, which are ſometimes obſerved in the left trunk of the eighth pair.

17 The diviſion of the left trunk of the eighth pair into three branches, which preſently unite again into the ſame trunk.

18. 18 The eighth pair of nerves emerging behind the heart, and communicating together by means of the branch 19.

20. 20 Twigs of the eighth pair, which are ſpent upon the upper orifice of the ſtomach.

21. 21 Three branches of the eighth pair on the right ſide, communicating with one another, which after ſending off the twigs 22. 22. 22. 22. &c. to the upper and back part of the ſtomach, are joined towards the pylorus, with ſome ſmall twigs from the right gangliform ſemilunar plexus, and together with theſe form the hepatic plexus 60. 60.

23 A ſmall branch of the eighth pair on the right ſide, the twigs of which are ſent to the upper and fore-part of the ſtomach, except thoſe 24, which terminate partly in the pylorus, partly in the pancreas, and in the biliary ducts of the liver.

25 The left trunk of the eighth pair, here repreſented a little ſmaller in proportion than is natural; which being divided into ſeveral branches below the diaphragm, and united with the twigs 26, going from the left ſemilunar gangliform plexus, together with theſe forms the ſtomachic plexus, and at laſt terminates in the meſenteric plexuſes.

27 A branch of the eighth pair on the left ſide, which I call the interior branch. This ſends its twigs to the lower part of the ſtomach, excepting thoſe 28. 28, which terminate in the pylorus.

K The anterior ſurface of the heart, freed from the pericardium and blood-veſſels.

L The right auricle of the heart.

M The left auricle.

N The deſcending vena cava, cut away near the right auricle.

O The aſcending vena cava, cut off a little above the diaphragm.

P The

P. The pulmonary artery, cut off near its origin.

Q. Q The trunk of the aorta divided into two, repreſented a little ſeparated from each other, in order to allow the upper cardiac plexus, interpoſed between the aorta and the trachea, to appear.

R The right branch of the aſcending trunk of the aorta.

S The origin of the right carotid artery, which is here cut off.

T The origin of the right vertebral artery, here likewiſe cut off.

V The right vertebral artery cut off.

X The left branch of the aſcending aorta, which immediately divides into two ſmaller ones; the interior and leſſer of which Y, forms the left carotid artery, while the exterior and larger, terminates in the left vertebral artery Z, and in the left axillary artery, &c.

$\dagger$ The deſcending trunk of the aorta.

Ψ The upper cervical gangliform plexus of the intercoſtal nerve.

Δ A ſmall nerve emerging from the upper cervical gangliform plexus of the left intercoſtal, which by means of two twigs 29. 29, communicates with the eighth pair of nerves on the left ſide, and running downwards, it reaches to the anterior part of the pericardium, and is ſpread out upon it.

30 The above nerve Δ cut off near the baſis of the heart.

31. 31. 31. 31 Twigs of the intercoſtal nerve, which are ſpent upon the muſcles of the neck, viz the longus and ſcalenus.

32 A ſmall branch of the intercoſtal nerve, which is inſerted into the gangliform thoracic plexus.

33 A twig of the intercoſtal nerve, which twiſts round the external jugular vein, and terminates in the neighbouring membranes.

∇ The inferior gangliform cervical plexus of the intercoſtal nerve.

34 A ſmall branch, ariſing from the inferior gangliform cervical plexus of the right intercoſtal nerve, which running downwards, perforates the pericardium, after which receiving a ſmall nerve from the upper cardiac plexus, it ſends off the twig 35 to the coats of the aorta, and at laſt climbing over the trunk of the pulmonary artery, it divides into the twigs 36. 36. 36. &c. which run upon the fore-part of the heart.

37 The thoracic gangliform plexus of the intercoſtal nerve.

38 A ſmall nerve emerging from the lower part of the thoracic gangliform plexus of the right intercoſtal, which is inſerted into the eighth pair on the right ſide.

39. 39 Two ſmall branches going from the lower part of the thoracic gangliform plexus of the left intercoſtal, the upper of which ſends off three twigs, of which the higheſt 40. 40 here cut off, are diſtributed to the œſophagus and the trachea arteria, while the third 42 joins in with the left trunk of the eighth pair of nerves. The lower branch 39 ſends the twig 41, which is here cut off, to the œſophagus; and at laſt the two branches 39. 39, having ſent off the above-mentioned twigs, bending towards the middle of the breaſt, and as ſoon as they have reached the back part of the aorta, they are divided into ſeveral ſmaller ones communicating with one another, and together with ſome twigs of the eighth pair, with which they are blended, they form a remarkable nervous plexus 43.

43 The

43 The upper cardiac plexus, which is much larger than the lower.

44. 44. 44 44 Twigs emerging from each ſide of the upper cardiac plexus, which are diſtributed through the internal ſubſtance of the lungs, and the glands in the upper part of them, ſituated behind the trachea.

45. 45. 45 Twigs going out from the upper cardiac plexus, which as well as thoſe 44. 44. &c. are repreſented cut away, and are ſpent upon the pericardium.

* A ſmall nerve emerging from the right ſide of the upper cardiac plexus, which joins in with the ſlender branch 34, and together with it is ſent to the fore-part of the heart.

46 A twig going from the left ſide of the upper cardiac plexus, which unites itſelf with the twig 2 of the branch y.

47. 47 Small branches going out from the upper cardiac plexus, which are ſpent upon the coats of the aorta.

48 Branches going from the lower part of the upper cardiac plexus, which are beſtowed upon the back part of the pericardium, and the region of the heart.

49 Two ſmall branches going likewiſe from the lower part of the upper cardiac plexus, and uniting together, which after ſending off the twig 50 to the coats of the aorta, form the lower cardiac plexus 51, and at laſt with their extremities 52, ſurround the pulmonary artery in the manner of a ring.

53 A ſmall branch going from the upper cardiac plexus, which is diſtributed to the left auricle of the heart, and is joined with the twig 4 of the ſmall nerve 2.

54. 54 Twigs ariſing from the interior ſide of the intercoſtal nerve, and diſtributed to the membranes upon the vertebræ of the back.

55. 55. 55. &c. Twigs ariſing from the ſame interior ſide of the intercoſtal nerve, and going to the gangliform ſemilunar plexus 57 on each ſide.

56. 56. 56. 56 Twigs of the intercoſtal nerve, which together with the others 54. 54, terminate in the membranes lining the vertebræ of the back.

57 The ſemilunar gangliform plexus of the intercoſtal nerve.

58 A ſmall branch ſent from the ſemilunar gangliform plexus of the right intercoſtal, which running upwards, is beſtowed partly upon the fleſhy, and partly upon the tendinous ſubſtance of the diaphragm.

59. 59 Twigs ariſing from the upper part of the ſemilunar gangliform plexus of the right intercoſtal, of which the three lower and ſmaller are beſtowed upon the gall-bladder, the biliary ducts, the pylorus, duodenum and pancreas; and the three upper, uniting together, terminate in the hepatic plexus.

60. 60 The hepatic plexus, produced from the right intercoſtal nerve, and the right trunk of the eighth pair.

61. 61 Twigs ſent from the lower part of the ſemilunar gangliform plexus of the right intercoſtal nerve, which terminate in the meſenteric plexuſes.

62. 62 Nervous filaments, which are ſpread upon the membranes lining the vertebræ of the loins.

63 The

63 The ſtomachic plexus, compoſed of ſome twigs from the right trunk of the eighth pair, and others from the gangliform ſemilunar plexus of the left intercoſtal nerve.

64 Small branches going from the gangliform ſemilunar plexus of the left intercoſtal nerve, which being reflected upwards, and communicating with one another, compoſe the ſplenic plexus.

65. 65 Twigs ariſing from the ſtomachic plexus, and terminating in the meſenteric plexuſes.

66. 66. 66. 66 Nervous filaments, which are beſtowed upon the membranes lining the vertebræ of the loins, and the parts contiguous.

67 A ſmall branch ſent from the inner ſide of the intercoſtal nerve, which on the right ſide is ſpent upon the right renal plexus, and on the left upon the left ſemilunar gangliform plexus.

68 A twig of the ſmall right branch 67, which is beſtowed upon the membranes ſurrounding the right kidney.

69 The trunk of the ſame right branch 67, which uniting with the lower exterior twig of thoſe 55. 55. &c. on the right ſide, forms with it a kind of net work, and at laſt together with it compoſes the right renal plexus 70. 70.

70. 70 The right renal plexus.

71 The interior twig of the ſmall nerves 55. 55. &c. of the right ſide, which is ſpent upon the membranes covering the right kidney; excepting thoſe little filaments of it 72. 72. 72, which with the other neighbouring ones 72. 72. 72, are beſtowed upon the membranes adjacent to the right kidney.

73 Two ſmall filaments of the little left branch 67, which are diſtributed to the membranes covering the left kidney.

74. 74 The left renal plexus, compoſed of three little branches ſent off from the left gangliform ſemilunar plexus.

75 A ſmall branch going from the left gangliform ſemilunar plexus, which is ſpent upon the membranes covering the left kidney; excepting thoſe little filaments of it 76. 76. 76, which, together with ſome other neighbouring ones, are beſtowed upon the membranes adjacent to the left kidney.

77. 77 The upper meſenteric plexus.

78. 78 The middle meſenteric plexus.

79. 79 The lower meſenteric plexus.

80. 80 The upper twigs of the lower meſenteric plexus, which are beſtowed upon the membranes lining the lower vertebræ of the loins.

81. 81. 81. &c. The lower twigs of the ſame meſenteric plexus, which are ſpent upon the membranes lining the os ſacrum, upon the coats of the rectum, the bladder, the ovaria, and uterus.

82. 82. 82. &c. The gangliform plexuſes in the form of a barley corn, which the intercoſtal nerve receives in the cavity of the abdomen.

83. 83. &c. Small branches which the intercoſtal nerve ſends off to the meſenteric plexuſes.

84. 84.

84. 84. &c. Small twigs of the intercoſtal nerve, which together with thoſe 85. 85, and the others 87. 87, are beſtowed upon the ureters, the rectum, with its levator muſcles, the ovaria, the uterus, the bladder, and its ſphincter, the veſiculæ ſeminales, the proſtatæ, and the ſphincter of the anus.

86 A ſmall branch, by means of which the intercoſtal nerves communicate together near the extremity of the os ſacrum.

88. 88. 88. &c. The gangliform plexuſes of the ſpinal nerves, which are wanting in the firſt, twenty-eighth, twenty-ninth, and thirtieth pairs.

89. 89. 89. &c. ſmall branches which the ſpinal nerves ſend off to the intercoſtal, at each internode of the vertebræ.

90 A nerve here cut away, the diſtribution of which is explained in figure 13.

91. 91. &c. Small branches which the intercoſtal nerve ſends off to the dorſals.

92 A conſiderable branch of the intercoſtal nerve, which unites itſelf with the firſt of the nerves of the os ſacrum, and together with it terminates in the poſterior crural nerve.

93. 93. 93. &c. Twigs of the ſpinal nerves, the diſtribution of which is explained in the figures 10. 13 and 14.

94 The phrenic nerve, ariſing from the fourth pair of cervicals.

95 A twig of the phrenic nerve, which is beſtowed upon the muſcles of the neck, viz. the tranſverſalis, and the ſpinatus.

96 A ſmall branch of the ſixth pair of cervical nerves, which is inſerted into the phrenic.

97 A twig of the phrenic nerve, which is united with one ſent off from the ſecond pair of dorſals, and afterwards is blended with the intercoſtal.

98 The phrenic nerve cut off.

99 A twig of the brachial nerves, the diſtribution of which, as well as of the phrenic, will be explained in the next figure.

100 A nerve cut away, which is compoſed of two twigs ſent off from the ſixth and ſeventh pair of cervical nerves. The diſtribution of this likewiſe will be explained in the next figure.

101 The common ſheath of the brachial nerves cut through.

102 The kidney, which is a little higher in the left ſide than in the right.

103 A conſiderable branch of the loweſt of the lumbar nerves, which unites itſelf with the firſt pair of nerves of the os ſacrum, and helps to form the poſterior crural nerve.

104. 104. 104. &c. The five pair of nerves of the os ſacrum, the diſtribution of which is explained Fig. 15.

105 The poſterior crural nerve cut away, the diſtribution of which will be explained in its proper place.

FIGURE

FIGURE X.

This figure repreſents ſeven pair of the cervical and dorſal nerves. It is taken from Tab. 24. of Vieuſſens.

A. A That part of the ſpinal marrow which lies within the ſeven vertebræ of the neck, and the two uppermoſt of the back.

B The firſt pair of cervical nerves cut off, the diſtribution of which ſee in the preceding figure.

a. a. a. a. &c. The gangliform plexuſes of the ſix inferior cervical nerves.

b. b The gangliform plexuſes of the two ſuperior dorſal nerves.

c. c. c. c. &c. Twigs of the ſix inferior cervical nerves, and of the firſt pair of dorſals, which are beſtowed upon the muſcles of the neck, viz. the tranſverſalis, and ſpinatus, and alſo the longiſſimus.

d. d. d. d. &c. Small branches cut away, which the ſix inferior cervical nerves, and the two ſuperior dorſals, ſend off to the intercoſtal.

e. e Two twigs cut off, by means of which the ſecond cervical nerves communicate with the eighth pair.

f. f. f Three pair of cervical nerves, viz. the ſecond, third, and fourth, which are united together by means of the ſmall branches g. g. g. g.

h. h Two ſmall branches of the ſecond pair of cervical nerves, which being reflected upwards, are diſtributed to the ear and its muſcles, the parotids, and integuments of the hind-head.

i A ſmall branch of the ſame ſecond pair of cervicals, which is ſpent upon the trapezius, and the neighbouring integuments.

k A twig of the ſame, which is inſerted into the external jugular vein.

l. l. l. l. &c. Small branches of the ſecond, third, and fourth cervical nerves, which are ſent to ſome of the muſcles of the neck, viz. the tranſverſalis, and ſpinatus; and of the head, viz. the ſplenius, the complexus, the ſmall and thick muſcles, the rectus major, and minor, the ſuperior oblique, and the inferior oblique; as likewiſe of the ſhoulder-blade, viz. the trapezius, rhomboides, and the levator ſcapulæ.

m A branch of the fourth pair of cervical nerves, terminating in the phrenic.

n. n. n The three inferior cervical nerves, which together with the two ſuperior dorſals o. o, go to form the brachial nerves.

p A branch ſent off from the fifth cervical nerve, of which the twig q, paſſing through a foramen of the ſcapula r, is ſpent upon the ſupraſpinatus muſcle, and the twig s upon the ſubclavian muſcle, and the coracobrachialis.

T A ſmall branch of the ſixth cervical nerve, which terminates in the phrenic.

u Another ſmall branch ſent off from the ſame ſixth cervical, which uniting with the branch X of the ſeventh, forms the common trunk 2 here cut off, which ſends its branches to ſome of the muſcles upon the thorax, viz. the ſerratus anticus major, and minor, as likewiſe the pectoral, and the neighbouring integuments.

1 The phrenic nerve, here likewiſe cut off. It ſometimes ſends off ſmall twigs to the pericardium, and then is diſtributed through the ſubſtance of the diaphragm.

C. D The ſheaths of the nerves n. n. n and o. o laid open, from which the brachial nerves emerge, as you may ſee in the two following figures.

3 A Branch going out from the ſheath C. D, which is ſpent upon the ſerratus anticus minor, and the teguments covering it.

4 The thoracic gangliform plexus of the intercoſtal nerve.

5 A ſmall branch ſent off from the abovefaid gangliform plexus, which uniting with another ſmall one 7, going from the ſecond of the dorſals, forms a nerve, the diſtribution of which is explained Fig. 13.

FIGURE XI.

This figure repreſents the nerves of the left arm, the hand lying ſupine. It is taken from Vieuſſens, Tab. 25.

A The ſheath of the brachial nerves, which is compoſed of their common external covering laid open.

1. 1. 1 Three ſmall branches going out from the ſheath of the brachial nerves, which are ſpent upon the ſubſcapularis muſcle, excepting ſome twigs, which are inſerted into the ſerratus major at its origin.

2 Another ſmall branch going out from the ſheath of the brachial nerves.

3. 3 Twigs of the ſmall branch 2, which are ſpent upon the teres minor muſcle.

4. 4 Other twigs of the ſame ſmall branch 2, which are diſtributed to the axillary glands, and to the membranes and fat about them.

5. 5 More twigs of the ſame ſmall branch 2, which are inſerted into the ſerratus major muſcle.

6. 6. 6 Still more twigs of the ſame ſmall branch 2, which terminate in the latiſſimus dorſi, and the teres major muſcle.

7 A ſmall branch going out from the ſheath of the brachial nerves, which ſends off the twig 8 to the axillary glands, and afterwards running down upon the muſcles on the inſide of the arm, viz. the longus, and brevis, (i. e. *the long and ſhort heads of the triceps)* it reaches as far as the fore arm, ſending off in its courſe twigs to the above muſcles, and to the cellular membrane.

9 The laſt ſmall branch ſent off from the ſheath of the brachial nerves, which is diſtributed to the axillary glands, and to the membranes about them.

B The firſt brachial nerve, which goes out from the back part of the ſheath, and divides into the two branches C and D.

10. 10. 10 Twigs of the branch C, ſome of which are beſtowed upon the infraſpinatus muſcle, ſome upon the teres major, and ſome upon the heads of the longus and brevis muſcles.

11. 11 Twigs of the branch D, which terminate in the deltoid muſcle.

12. 12 The other twigs of the branch D, which are ſent to the teguments upon the upper and external part of the left arm.

E The ſecond brachial nerve, which runs down as far as the hand.

F. F The axillary artery accompanied with the vein, and ſurrounded as it were by the brachial nerves.

G A portion of the coracobrachialis muſcle, which the nerve E firſt perforates.

13. 13. 13 Twigs which the nerve E ſends off to the above muſcle.

14 A twig of the nerve E, which is diſperſed through the middle of the belly of the biceps.

15 A ſmall branch of the nerve E, whoſe twigs 16. 16. 16 are diſtributed through the biceps, but the one 17. 17, after ſending off ſome filaments to the brachialis internus muſcle, terminates in ſeveral ſmall twigs, which are inſerted into the teguments at the bending of the fore-arm.

18 Another ſmall branch of the nerve E, which paſſing under the head of the ſupinator longus, ſends off ſeveral twigs to it, and afterwards terminates in the external cubital muſcle.

19. 19. 19 Twigs of the nerve E, which are beſtowed upon the cellular membrane, and the other integuments.

20. 20. 20. 20. &c. Small twigs of the nerve E, the ſuperior of which are loſt in the integuments; the middle ones about the joint of the wriſt, are beſtowed upon the neighbouring membranes, and the ligaments connecting the radius and ulna with the bones of the carpus, while the lowermoſt run down upon the hand itſelf, and are loſt in the teguments; from which you may eaſily underſtand, that it is here repreſented ſomewhat ſhorter than it ought to be.

H The third brachial nerve.

21 A twig of the nerve H, which is ſpent upon the pronator teres of the radius.

22 Another twig of the nerve H, the upper filaments of which 23. 23 are beſtowed upon the pronator teres juſt mentioned, and the others 24. 24 paſſing under the ſublimis, are inſerted into the profundus.

25 A third twiſt of the nerve H, whoſe filaments terminate chiefly in the radiæus internus, only ſome of them are ſent to the ſublimis, and ſome to the palmaris.

26 A ſmall twig of the nerve H, which is ſpent upon the ſublimis.

27 A ſmall branch of the nerve H, of which the twig 28 paſſing by the flexor muſcle of the fore-finger, ſends off the filament 29 to it, and then terminates in the profundus.

30 A twig of the ſmall branch 27, which enters the flexor of the thumb, and is diſperſed through it.

31. 31 Two more twigs of the ſame ſmall branch 27, which are ſpent upon the flexor of the fore-finger.

32 Another twig of the ſmall branch 27, which is ſent to the flexor of the thumb.

33. 33 The laſt filaments of the ſame 27, which are beſtowed upon the quadratus muſcle.

34 A ſmall branch of the nerve H, the twigs of which being interwoven together, form a ſmall plexus, which lies under the broad tendon of the palmaris

palmaris muſcle, and ſend off ſeveral fibres to the ſkin upon the palm of the hand.

I The diviſion of the nerve H below the annular ligament, into the interior, and the exterior branch.

35 The exterior branch of the diviſion I.

36. 36 The exterior ſmall branch of the one 35, whoſe twigs are ſent to the teguments upon the external lateral part of the thumb, excepting thoſe ſmall ones 37. 37, which are ſent to the abductor of the thumb, and another muſcle placed under the tendon of its great flexor which ſeveral anatomiſts look upon as its ſecond flexor; but I am of opinion with that celebrated anatomiſt Riolan, that it is rather the ſecond abductor, or a portion of the firſt.

38. 38 The middle ſmall branch of the one 35, which is beſtowed upon the internal lateral part of the thumb, and the teguments covering it.

39 A twig of the ſmall branch 38. 38, which is inſerted into the adductor of the thumb.

40. 40 The interior ſmall branch of the one 35, which is ſpent upon the inſide of the fore-finger next the thumb.

41 A twig of the ſmall branch 40. 40, which is beſtowed upon the firſt lumbricalis muſcle, whoſe tendon is inſerted into the finger.

42. 42 Two twigs of the ſmall branch 40. 40, which are diſperſed through the adductor muſcle of the thumb. As to the reſt of the twigs of the ſame 40. 40, they are all diſtributed to the teguments of the fore-finger.

43 The interior branch of the diviſion I.

44 A twig of the branch 43, which is ſent to the interoſſeous muſcles.

45 A ſmall branch of the one 43, of which the twig 46 is beſtowed partly upon the internal interoſſeous muſcle, and partly upon the ſecond lumbrical; but the twigs 47. 47 are ſent partly to the fat and teguments of the fore-finger, and the middle finger, and partly to the ſecond lumbricalis muſcle.

48. 48 A twig of the ſmall branch 45, whoſe fibres are diſperſed upon the inſide of the fore-finger, next the middle finger.

49. 49 Another twig of the ſmall branch 45, the fibres of which are diſperſed upon the inſide of the middle finger, next the fore-finger.

50 Another ſmall branch of the one 43, the fibres of which 51. 51. 51, terminate partly in the third lumbricalis muſcle, and partly in the internal interoſſeous, which lies under the lumbricalis, when the hand is in a ſupine poſture.

52. 52 A twig of the ſmall branch 50, which after ſending off the fibre c to the teguments between the middle and the ring finger, is ſpent upon the inſide of the middle finger, next the ring finger.

53. 53 Another twig of the ſmall branch 50, which after ſending off the fibres d. d to the teguments between the middle finger and the ring finger, is diſtributed to the inſide of the ring finger, next the middle finger.

K The fourth brachial nerve.

54. 54. 54

54. 54. 54 Three twigs of the nerve K, which are ſpent upon the ſhort head of the triceps, which the aboveſaid nerve K penetrates near its extremity.

55. 55 At this place the nerve K paſſing behind the fore-arm, between the olecranon and the internal apophyſis of the os humeri, lies under the tendons of the long and ſhort heads of the triceps.

56. 56. 56 Twigs of the nerve K, which are beſtowed upon the adipous membrane, and the other integuments.

57. 57 Twigs, which the nerve K towards the bending of the fore-arm ſends off to the head of the internal cubital muſcle.

58. 58. 58 Twigs of the nerve K, which are diſtributed to the internal flexor of the wriſt.

59 A twig of the nerve K, which is inſerted into the head of the profundus muſcle.

60 Another twig of the nerve K, which ſends off fibres to the artery and vein which it accompanies, and afterwards is ſpent upon the muſculus quadratus, the membranes upon the carpus, and the annular ligament.

b A branch of the nerve K cut off, which is ſent to the upper part of the hand, together with the nerve M which is cut off at a, as you will ſee in the next figure.

61 The trunk of the nerve K, which lying upon the muſculus profundus, goes almoſt as far as the wriſt before it divides, and there, together with the vein which attends it, it gets a new covering, which it preſently lays down again.

L The diviſion of the nerve K, into the interior and exterior branch.

62 The interior branch of the diviſion L, of which the twigs 63. 63. 63. 63 are ſent to the fourth lumbricalis muſcle, and the internal interoſſeous, which lies under the lumbricalis, when the hand is in a ſupine poſture.

64. 64 A twig of the interior branch 62, which together with its fibres is diſtributed to the inſide of the ring finger, next the little finger.

65. 65 Another twig of the interior branch 62, which ſends its fibres to the inſide of the little finger, next the ring finger.

66 The exterior branch of the diviſion L, of which the twigs 67. 67. 67. 67 are diſtributed to the abductor of the little finger, and the teguments covering it, while the reſt are ſpent upon the outſide of the ſame finger.

M The fifth brachial nerve.

68 A twig of the nerve M, which is diſtributed to the cellular membrane and the integuments.

69 A twig of the nerve M, which enters the head of the longus muſcle, *(or the long head of the triceps)* and terminates in it.

70 Another twig of the ſame M, which terminates partly in the brevis muſcle *(or the ſhort head of the triceps)* and partly in the brachiæus internus.

71. 71 A ſmall branch of the nerve M, which running along with it towards the outſide of the arm, perforates the longus muſcle near its extremity, giving off lateral fibres to it, and at laſt terminates in the ſkin.

72. 72 Another ſmall branch of the nerve M, which in the ſame manner as the one 71. 71, perforates the longus muſcle, ſending likewiſe off little twigs to it, and afterwards runs to the outſide of the arm, going as far down as the carpus, where it is loſt in the teguments, eſpecially the ſkin.

N The nerve M, which together with its ſmall branches 71. 71. and 72. 72, runs under the other nerves E, H and K, as alſo the os humeri, and gets to the outſide of the arm.

73 A twig of the nerve M, which is inſerted into the head of the ſupinator longus, above the external apophyſe of the os humeri, and terminates in it.

74 Another twig of the ſame nerve M, which is beſtowed upon the firſt extenſor of the carpus, or the external radiæus muſcle.

75. 75 Two twigs of the nerve M, going to the ſupinanor brevis.

76 A ſmall branch of the nerve M, which paſſes through the ſupinator brevis, and as ſoon as it gets out of it divides into two branches, one of which 77, terminates in the ſecond extenſor of the thumb; while the other 78, ſends off its upper twigs to the great extenſor of the fingers, and likewiſe to the proper extenſor of the little finger, and the lower ones to the great extenſor of the thumb, and the proper extenſor of the fore-finger.

79 A twig of the ſame nerve M, which is ſpent upon the firſt extenſor of the carpus, or the radiæus externus muſcle.

a The nerve M cut off, which being connected by means of certain little membranes to the firſt ſupinator muſcle, runs along with the twig 79, almoſt to the extremity of the radius, and together with the branch b, is continued to the external and upper part of the hand, as you will ſee in the following figure.

O The ſixth brachial nerve, which is diſtributed to the ſheaths of ſeveral of the muſcles, the cellular membranes, and the ſkin upon the whole inſide of the arm, as far as the wriſt itſelf.

80. 80 The conjunction of the two branches of the nerve O, which is ſometimes wanting.

FIGURE XII.

This figure repreſents the nerves of the right arm, the hand lying prone. It is taken from Vieuſſens, Tab. 26.

A The ſheath of the brachial nerves, which is compoſed of their common external covering, laid open.

1. 1. 1 Three ſmall branches going out from the ſheath of the brachial nerves, which are ſpent upon the ſubſcapularis muſcle, excepting ſome twigs which are inſerted into the ſerratus major at its origin.

2 Another ſmall branch, going out from the ſheath of the brachial nerves.

3. 3 Twigs of the ſmall branch 2, which are ſpent upon the teres minor muſcle.

4. 4 Other twigs of the ſame ſmall branch 2, which are diſtributed to the axillary glands, and to the membranes and fat about them.

5. 5 More twigs of the ſame ſmall branch 2, which are inſerted into the ſerratus major muſcle.

6. 6. 6 Still more twigs of the ſame ſmall branch 2, which terminate in the latiſſimus dorſi, and the teres major muſcle.

7 A ſmall branch going out from the ſheath of the brachial nerves, which ſends off the twig 8 to the axillary glands, and afterwards running down upon the muſcles on the inſide of the arm, viz. the longus and brevis, (i. e. *the long and ſhort heads of the triceps)* it reaches as far as the fore-arm, ſending off in its courſe twigs to the above muſcles, and to the cellular membrane.

9 The laſt ſmall branch ſent off from the ſheath of the brachial nerves, which is diſtributed to the axillary glands, and to the membranes about them.

B The firſt brachial nerve, which goes out from the back part of the ſheath, and divides into the two branches C and D.

10. 10. 10 Twigs of the branch C, ſome of which are beſtowed upon the infraſpinatus muſcle, ſome upon the teres major, and ſome upon the heads of the longus and brevis muſcles.

11. 11 Twigs of the branch D, which terminate in the deltoid muſcle.

12. 12 The other twigs of the branch D, which are ſent to the teguments upon the upper and external part of the right arm.

E The ſecond brachial nerve, which runs down as far as the hand.

F The axillary artery accompanied with the vein, and ſurrounded as it were by the brachial nerves.

G A portion of the coracobrachialis muſcle, which the nerve E firſt perforates.

13. 13. 13 Twigs, which the nerve E ſends off to the above muſcle.

14 A twig of the nerve E, which is diſperſed through the middle of the belly of the biceps.

15 A ſmall branch of the nerve E, whoſe twigs 16. 16. 16 are diſtributed through the biceps, but the one 17. 17, after ſending off ſome filaments to the brachialis internus muſcle, terminates in ſeveral ſmall twigs, which are inſerted into the teguments at the bending of the fore-arm.

18 Another ſmall branch of the nerve E, which paſſing under the head of the ſupinator longus, ſends off ſeveral twigs to it, and afterwards terminates in the external cubital muſcle.

19. 19. 19 Twigs of the nerve E, which are beſtowed upon the cellular membrane, and the other integuments.

20 A ſmall twig of the nerve E, ſent likewiſe to the integuments.

a The nerve E cut off. For the diſtribution of it, ſee the preceding figure.

H The third brachial nerve.

21 A twig of the nerve H, which is ſpent upon the pronator teres of the radius.

22 Another twig of the nerve H, the upper filaments of which 23. 23 are beſtowed upon the pronator teres juſt mentioned, and the others 24, paſſing under the ſublimis, are inſerted into the profundus.

25 A third twig of the nerve H, whoſe filaments terminate chiefly in the radiæus internus, only ſome of them are ſent to the ſublimis, and ſome to the palmaris.

26 A ſmall twig of the nerve H, which is ſpent upon the ſublimis.

27 A ſmall branch of the nerve H, of which the twig 28 paſſing by he flexor muſcle of the fore-finger, ſends off the filament 29 to it, and then terminates in the profundus.

30 A twig of the ſmall branch 27, which enters the flexor of the thumb, and is diſperſed through it.

31. 31 Two more twigs of the ſame ſmall branch 27, which are ſpent upon the flexor of the fore-finger.

32 Another twig of the ſmall branch 27, which is ſent to the flexor of the thumb.

33 A very ſmall twig of the ſame branch 27, which is beſtowed upon the quadratus muſcle.

b The nerve H cut off. See the further diſtribution of it in the preceding figure.

c The ſmall branch 27 cut off. The further diſtribution of which ſee likewiſe in the preceding figure.

I The fourth brachial nerve.

34. 34. 34 Three twigs of the nerve I, which are ſpent upon the ſhort head of the triceps, which the aboveſaid nerve I penetrates near its extremity.

35 At this place the nerve I paſſing behind the fore-arm, between the olecranon and the internal apophyſis of the os humeri, lies under the tendons of the long and ſhort heads of the triceps.

36. 36. 36 Twigs of the nerve I, which are beſtowed upon the cellular membrane, and the other integuments.

37. 37 Twigs ſent off from the nerve I, to the head of the internal cubital muſcle, near the bending of the fore-arm.

38. 38. 38 Twigs of the nerve I, which are diſtributed to the internal flexor of the wriſt.

39 A twig of the nerve I, which is inſerted into the head of the profundus muſcle.

40 Another twig of the nerve I, which ſends off fibres to the artery and vein which it accompanies, and afterwards is ſpent upon the muſculus quadratus, the membranes upon the carpus, and the annular ligament of the wriſt.

d The twig 40, here cut off. See the further diſtribution of it in the preceding figure.

e The trunk of the nerve I cut off. The further diſtribution of which ſee likewiſe in the preceding figure.

41 A branch of the nerve I, which is cut off in the preceding figure, and marked b.

42. 42 Twigs of the branch 41, ſent to the abductor muſcle of the little finger.

43 A twig of the ſame branch 41, which is ſpent upon the teguments on the back part of the metacarpus.

44. 44. 44. 44. &c. More twigs of the branch 41, which terminate in the teguments on the back of the hand.

45. 45 A twig of the branch 41, which is ſpent upon the back part of the little finger, next the ring finger.

46. 46 Another twig of the ſame branch 41, which together with its fibres, is ſpent upon the back part of the little finger, next the ring finger.

47. 47 Still another twig of the branch 41, which is beſtowed upon the back part of the ring finger, next the little finger.

48. 48. 48

48. 48. 48 Small fibres of the nerve 41, which are ſent to the interoſſeous muſcles, and the integuments on the back part of the metacarpus.

49. 49. 49 More fibres of the nerve 41, which are ſent to the teguments on the back part of the metarcarpus.

50. 50 A twig of the branch 41, which is ſent to the back part of the ring finger, next the middle finger.

51. 51 The laſt twig of the branch 41, which is ſent to the back part of the middle finger, next the ring finger.

K The fifth brachial nerve.

52 A fibre of the nerve K, which is beſtowed upon the cellular membrane, and the other integuments.

53. 53 More fibres of the nerve K, which are ſpent upon the head of the longus muſcle, *(or long head of the triceps)* and terminate in it.

54 Another fibre of the nerve K, which is beſtowed partly upon the ſhort head of the triceps, and partly upon the brachiæus internus muſcle.

55. 55 A ſmall branch of the nerve K, which running towards the outſide of the arm, together with the nerve, perforates the longus muſcle, near its extremity, ſending off fibres to it, and at laſt is ſpread out upon the ſkin.

56. 56 Another ſmall branch of the nerve K, which in the ſame manner as the ſmall branch 55. 55, perforates the longus muſcle, and ſends off fibres to it; after which running on to the outſide of the arm, and down as far as the metacarpus, it terminates in the teguments, and eſpecially in the ſkin.

57 A twig of the nerve K, which is inſerted into the head of the long ſupinator muſcle, above the external apophyſe of the os humeri, and terminates in it.

58 Another twig of the nerve K, which is beſtowed upon the firſt extenſor of the carpus, or the external radial muſcle.

59 Another twig of the ſame nerve K, which is ſent to the ſhort ſupinator muſcle.

60 A ſmall branch of the nerve K, which paſſes through the ſhort ſupinator muſcle, and as ſoon as it emerges, it divides into two branches; one of which, viz. 61, is ſpent upon the ſecond extenſor of the thumb, while the other 62, ſends off its upper twigs to the common extenſor of the fingers, and alſo to the proper extenſor of the little finger; and the lower ones to the firſt extenſor of the thumb, and to the proper extenſor of the fore-finger.

63 A twig of the nerve K, which is beſtowed upon the firſt extenſor of the carpus, or the external radial muſcle.

64. 64 The trunk of the nerve K, which being connected by means of ſome very thin membranes to the firſt ſupinator muſcle, runs down with the twig 63, almoſt as far as the end of the radius, and together with the branch 41, is beſtowed upon the upper and back part of the hand.

65. 65 A ſmall branch of the nerve K, the upper and larger twig of which 66, is inſerted into the abductor muſcle of the thumb, while the reſt are ſent to the teguments on the back of it.

67 A ſmall branch of the nerve K, ſent to the teguments on the upper and back part of the thumb, and going as far as the ſecond joint of the thumb. This ſometimes ariſes from the ſmall branch 65. 65.

68. 68 A ſmall branch of the nerve K, of which the twig 69 is beſtowed upon the antithenar muſcle, and the reſt are ſpread upon the back part of the thumb laterally, next the fore-finger.

70 A twig of the nerve K, which is ſpent upon the teguments on the back of the hand.

71. 71 More twigs of the nerve K, which are beſtowed partly upon the antithenar muſcle, and partly upon the teguments on the back of the hand.

72. 72 A ſmall branch of the nerve K, which together with its twigs, is diſtributed to the back part of the fore-finger laterally, next the thumb.

73 A branch of the nerve K, whoſe twigs 74. 74. 74 are ſent to the back of the hand, and the external interoſſeous muſcles.

75. 75 Twigs of the nerve K, which are inſerted into the teguments on the back of the hand.

76. 76 A twig of the branch 73, which together with its fibres, is beſtowed upon the back part of the fore-finger laterally, next the middle finger.

77. 77 Another twig of the branch 73, which, together with its fibres, is beſtowed upon the back part of the middle finger laterally, next the fore-finger.

L The ſixth brachial nerve, which is ſent to the ſheaths of ſeveral of the muſcles, to the cellular membrane, and to the ſkin upon the whole inſide of the arm, as far down as the wriſt.

78 The conjunction of two branches of the nerve L, which is ſometimes wanting.

FIGURE XIII.

This figure repreſents the dorſal nerves, and is taken from Vieuſſens, Tab. 27.

A. A That portion of the ſpinal marrow which is contained within the vertebræ of the back.

B The gangliform thoracic plexus of the intercoſtal nerve.

a A ſmall branch going out from the above thoracic plexus, which joins itſelf to another ſmall branch ſent from the ſecond dorſal plexus, and together with it forms the nerve E, which in Fig. 9. and 10 is cut off.

C. C. &c. The gangliform plexuſes of the dorſal nerves, the two uppermoſt of which go to the brachial nerves, as you may ſee Fig. 10.

D The ſecond dorſal nerve cut off.

E A nerve compoſed of the ſmall branch a, and of another ſmall branch ſent from the ſecond dorſal nerve, which is beſtowed upon the ſubclavian muſcle, and the teguments lying upon it, excepting only a ſlender branch b, which is ſent to the ſerratus minor anticus muſcle.

c. c. c. c. &c. The dorſal nerves, which are diſperſed to the teguments of the thorax, the intercoſtal muſcles, the levators of the ribs, the pectoral, ſerratus major, both the ſerrati poſtici, the cervicalis deſcendens of Diemerbroeck, the plura, the triangular muſcle, and mediaſtinum.

d. d. d. d. &c. Small branches cut off, which the intercoſtal nerve ſends to the dorſals.

e. e. e. e. &c. Other ſmall branches cut off, which the dorſal nerves ſend to the intercoſtal.

f. f. f. f. &c. Twigs of the dorſal nerves, which are beſtowed upon the levator muſcles of the ribs, the cervicalis deſcendens of Diemerbroeck, and the longiſſimus dorſi.

g g g. g. &c. Branches ſent off from the ſix inferior dorſal nerves, to the teguments upon the lower part of the thorax, and the containing parts of the abdomen.

h A branch of the laſt of the dorſal nerves, which is ſent to the ſacrolumbalis muſcle.

FIGURE XIV.

This figure repreſents the diſtribution of the lumbar nerves, and is taken from Vieuſſens, Tab. 28.

A. A That portion of the ſpinal marrow, which is contained within the vertebræ of the loins.

a. a. a. &c. The gangliform plexuſes of the lumbar nerves.

b. b. b. &c. Twigs of the lumbar nerves, which are ſpent upon the muſcles of the back and loins, viz. the quadratus, longiſſimus dorſi, ſacer, and ſemiſpinatus.

c. c. c. &c. Small branches of the lumbar nerves, which are ſent off to the intercoſtal.

B A branch of the laſt lumbar nerve cut off, which joins in with the firſt of the ſacral, and terminates in the poſterior crural nerve.

1 A ſmall branch of the firſt lumbar nerve, which ſends its twigs to the diaphragm, peritoneum, and the muſcles of the abdomen.

2 The firſt lumbar nerve.

3 A ſmall branch of the nerve 2, which is ſpent upon the tranſverſalis muſcle, and the two oblique.

5. 5 Four ſmall branches of the nerve 2, which are ſent to the teguments covering the os ſacrum, the ilium, and coxendix.

6 A ſmall branch of the nerve 2, which ſends off ſome twigs to the peritoneum; and as ſoon as it has got to the ſpine of the ilium, it is beſtowed upon the tranſverſe and internal oblique muſcle of the abdomen.

d Another ſmall branch of the nerve 2, which after ſending off the twigs * * to ſome of the muſcles of the back and loins, viz. the quadratus, longiſſimus dorſi, ſacer, and ſemiſpinatus, it unites itſelf with the ſecond of the lumbar nerves.

7 A twig of the ſecond lumbar nerve, which climbs over the ſmall branch d, and is beſtowed upon the quadratus muſcle.

8. 8 A ſmall branch of the ſecond lumbar nerve.

9 A twig of the ſmall branch 8. 8, which towards the inner edge of the ſpine of the ilium, penetrates the internal oblique muſcle of the abdomen, and terminates in it.

10 The diviſion of the ſmall branch 8. 8.

11 The

11 The internal portion of the diviſion 10.

12 The external portion of the diviſion 10, which is ſent to the teguments covering the fore-part of the ilium.

13 The conjunction of the two above 11 and 12.

14 A twig of 11, and of the ſmall branch 22, which, together with the twig 15, is inſerted into the internal oblique muſcle of the abdomen.

16. 16 Two twigs ſent off from the ſame 11 and 22, to the oblique muſcles of the abdomen.

e A twig of 11 and of the ſmall branch 22 united, which is ſpent upon the inguinal glands, and the pectineus muſcle.

17. 17 Another twig of the ſame, ſent to the cremaſter muſcle, to the proceſs of the peritonæum, and the coats of the ſpermatic veſſels.

18. 18 A third twig of the ſame, which is diſtributed to the teguments on the upper part of the pubis.

19. 19 A fourth twig of the ſame, which terminates in the teguments of the groins.

20 A fifth twig of the ſame, ſpent upon the teguments of the pubis.

21. 21 A ſixth twig of the ſame, which terminates in the ſcrotum.

22 A ſmall branch of the ſecond lumbar nerve, which unites itſelf with 11, above the inner ſpine of the os ilium.

23. 23 Another ſmall branch of the ſame nerve, for the moſt part ſingle, and ſometimes having three origins, which after ſending off the twigs 24. 24 to the pſoas muſcle, under which it runs, it winds round the iliac veſſels, a little before they paſs out of the abdomen, and is ſpent upon their coats, and likewiſe on the inguinal glands.

25. 25 Twigs, which the ſecond lumbar nerve ſends off to the pſoas muſcle.

26 Another ſmall branch of the ſecond lumbar nerve, which is inſerted into the third. Here it muſt be obſerved, that the ſecond lumbar nerve, ſometimes unites itſelf immediately with the third.

27. 27 Twigs, which the trunk of the ſecond lumbar nerve ſends off to the pſoas muſcle, in its courſe through that muſcle.

28. 28 The trunk of the ſecond lumbar nerve, going out from the laſt-mentioned muſcle.

29 A twig of the ſecond lumbar nerve, repreſented ſmaller than it naturally is in proportion to the others. It is diſtributed to the peritonæum, and the proper membranes of the pſoas and internal iliac muſcle.

30 The diviſion of the ſecond lumbar nerve.

31 The exterior branch of the diviſion 30, which is repreſented ſomewhat ſmaller in proportion than it naturally is.

32 The interior branch of the diviſion 30.

33 A twig of the branch 31, which, after ſending off ſome fibres to the inguinal glands, is ſpent upon the peritonæum, and the rectus, pyramidalis, and internal oblique muſcle of the abdomen.

34 A very ſmall twig of the branch 31, which is diſperſed through the inguinal glands.

35. 35 The

35. 35 The remaining part of the branch 31, which enters the proceſs of the peritonæum, and after ſending off ſome twigs to the cremaſter muſcle, and to the ſheaths of the ſpermatic veſſels, is ſpent upon the coats of the teſticles.

36 A twig of the branch 32, which terminates in the peritonæum.

37 The diviſion of the branch 32 into three ſmaller ones.

38 The upper ſmall branch of the one 37, which is ſent to the teguments upon the pubes.

39 A twig of the middle ſmall branch of the one 37, ſent to the teguments upon the upper part of the pubes.

40 The middle ſmall branch of the one 37, which is beſtowed upon the teguments of the penis.

41 A twig of the lower ſmall branch of the one 37, which is diſperſed through the ſcrotum.

42. 42 The remaining part of the lower ſmall branch of the ſame 37, which after ſending off a twig or two to the teguments upon the groins, terminates in the upper part of the perinæum. Here it muſt be obſerved, that the trunk of the ſecond lumbar nerve 28. 28, ſometimes ſends off a conſiderable branch, which is diſtributed to the glands in the groins, and upon the upper part of the thigh, and likewiſe to the teguments upon the fore-part of the thigh; and then the branch of the third lumbar nerve marked 53. 53, is either altogether wanting, or only very ſmall.

43 A branch of the third lumbar nerve.

44 A twig of the branch 43, which is ſpent upon the pſoas muſcle.

f. f The conjunction of the branches 43 and 66. 66. Here it muſt be remarked, that theſe two branches, which are always ſent to the teguments on the external lateral part of the thigh, are ſometimes found ſeparated without the cavity of the abdomen.

45 A twig of the united branches 43 and 66. 66, which is ſpent upon the ſartorius muſcle.

46 Another twig of the ſame branches, which in the ſame manner as the laſt, is inſerted into the head of the laſt-mentioned muſcle, and terminates in it.

47. 47 The diviſion of the nerve made up of the above branches 43 and 66. 66.

48 The exterior branch of 47. 47, the twigs of which terminate in the cellular membrane, and the ſkin upon the external lateral part of the thigh, excepting ſome which are ſpent upon the aponeuroſis of the muſculus membranoſus, or faſcialis of the tibia.

g. g g The extremities of the branch 48.

49 The interior branch of 47. 47, the twigs of which running down as far as the knee, are beſtowed upon the teguments on the external lateral part of the thigh.

h. h The extremities of the branch 49.

50. 51. 52 Three twigs of the third lumbar nerve, which are diſtributed to the pſoas muſcle.

53. 53 A branch of the ſame third lumbar nerve, which is ſometimes wanting, or at leaſt very ſmall, as was remarked above. Here it muſt be obſerved, that that branch is compoſed ſometimes of two, ſometimes of three, and ſometimes of four others.

54. 54 Two

54. 54 Two twigs of the branch 53. 53, which are ſpent upon the inguinal glands.

55. 55 A twig of the branch 53. 53, which after ſending off the fibres 56. 56 to the ſubinguinal glands, runs between the crural artery and vein, and is ſpent upon the coats of theſe veſſels.

57. 57 The diviſion of the branch 53. 53, into three ſmaller branches.

58 The interior branch of 57. 57, which after having ſent off ſeveral little twigs in form of a ſmall plexus to the ſubinguinal glands, is diſperſed through the teguments upon the internal lateral part of the thigh.

59. 59. 59 Conglobate glands, ſituated upon the upper and internal part of the thigh, whence they have the name of ſubinguinal. But theſe, as well as the others, are ſubinguinal; which upon account of their ſituation we have called the inguinal, and here they are repreſented much ſmaller in proportion, than they naturally are.

60 The exterior branch of 57. 57, which paſſes under the anterior crural nerve, and immediately afterwards unites itſelf with the branch 61.

61 The middle branch of 57. 57.

62 A twig of the branch 61, which is ſpent upon the integuments.

63 The diviſion of the branch 61.

64. 64 The exterior ſmall branch of 63, which runs down as far as the knee-pan, and is diſtributed to the teguments upon the fore-part of the thigh.

65. 65 The interior ſmall branch of 63, which runs down as far as the former, and ſends off its twigs to the teguments on the anterior and internal lateral part of the thigh.

66 A branch of the third lumbar nerve, which for the moſt part unites itſelf with the branch 43, above the ſpine of the os ilium, and ſometimes it is found ſeparate from it.

67 A ſmall branch of the third lumbar nerve, which running downwards together with the others 68 and 69, and uniting with them forms the nerve 70.

68 Two ſmall branches of the fourth lumbar nerve, which unite themſelves with the one 67. It muſt however be obſerved, that the fourth lumbar nerve ſometimes ſends only one ſmall branch to the one 67.

69 A ſmall branch of the fifth lumbar nerve, which unites itſelf with 67, in the ſame manner as the others 68.

70 A nerve compoſed of the above ſmall branches 67. 68 and 69.

71 A twig, which the nerve 70 ſends to the internal obturator of the thigh.

i The diviſion of the nerve 70.

72 Two twigs, which the interior branch of i ſends off to the external obturator muſcle.

73. 73 A twig of the exterior branch of i, which is ſent to the gracilis poſticus, or internus muſcle.

74 The exterior branch of i, which is ſpent upon the triceps muſcle.

75. 75 The interior branch of i, which ſends off its twigs in which it terminates 76. 76, to the lower part of the triceps.

77 The union of the third and fourth lumbar nerves.

78 A twig of the fourth lumbar nerve, which terminates in the pſoas muſcle.

79 The

79 The union of the fourth and fifth lumbar nerves.

C. C The anterior crural nerve, which is compoſed of the lumbar nerves united together.

80 A ſmall twig of the anterior crural nerve, which is beſtowed upon the internal iliac muſcle.

81 Another ſmall twig of the ſame nerve, diſtributed to the pſoas muſcle.

82 A ſmall branch of the ſame, diſperſed through the internal iliac muſcle.

83 Another ſmall twig of the ſame, ſent to the pſoas muſcle.

84. 84 Two more twigs of the ſame nerve contiguous at their origin, ſpent upon the longiſſimus tibiæ, or ſartorius muſcle.

D The diviſion of the anterior crural nerve into four branches.

85 The firſt and exterior branch of the diviſion D.

86 A twig of the branch 85, which is ſent to the muſculus rectus of the tibia, or the gracilis anticus.

87 Another ſmall twig of the branch 85, which after ſending off ſome fibres to the aboveſaid muſcle of the tibia, enters the vaſtus internus muſcle, and terminates in it.

88 The ſecond branch of the diviſion D.

89 The ſmall ſuperior twig of the branch 88, which is beſtowed upon the fleſhy part of the facialis, or membranoſus muſcle.

90 Another twig of the branch 88, which terminates in the vaſtus externus.

91 A third twig of the branch 88, ſent to the crureus muſcle.

92 A fourth twig of the branch 88, which is diſperſed through the vaſtus internus muſcle.

93 The third branch of the diviſion D, lying upon the fourth, to be deſcribed immediately.

94 A nerve compoſed of three fibres of the branch 93 united together, which enters the cellular ſheath of the crural artery, and after it has got out of it again, ſends four branches 95. 95 to the teguments upon the inſide of the thigh.

96. 96 The trunk of the nerve 94, which runs down as far as the ham, and ſends off its twigs to the inſide of the thigh; excepting ſome which it gives to the vena ſaphena which it accompanies.

97 A twig of the branch 93, which is inſerted into the coats of the crural veſſels.

K. K The diviſion of the branch 93, after it has ſent off the nerve 94, and the twig 97.

98. 98 The exterior branch of the diviſion K. K, which enters the ſartorius muſcle, and terminates in it.

99. 99. 99 The other branch of the diviſion K. K, which runs down as far as the knee, giving off ſome twigs to the ſartorius muſcle, upon which it lies, and afterwards is ſpread upon the teguments on the inſide of the thigh.

100 The fourth branch of the diviſion D.

101 A twig of the branch 100, which enters the head of the vaſtus internus muſcle, and terminates in it.

102 Another twig of the branch 100, which is beſtowed upon the ſame muſcle.

103 A branch of the ſame 100, which is diſperſed through the vaſtus internus muſcle. Here it muſt be obſerved, that the trunk of the branch 100, a little below the diviſion D, enters the ſheath of the crural artery, and as ſoon as it gets out again, is divided into two branches.

104 The diviſion of the branch 100.

105 A branch of the diviſion 104, which leaves the crural artery.

106 A ſmall branch of 105, which is ſpent upon the vaſtus internus muſcle.

107. 107 The trunk of 105, which after ſending off the twig m to the vaſtus internus, terminates in the inferior tendon of the triceps muſcle.

108 A branch of 104, which accompanies the crural artery, and ſends off the twigs 109. 109 to the longiſſimus tibiæ, or the ſartorius muſcle.

110 The branch 108 leaving the crural artery, a little above the ham.

111 A ſmall branch of the one 108, which is ſent to the teguments on the upper and fore-part of the leg.

112 Another ſmall branch of the ſame, which together with the former is ſent to the teguments on the fore-part of the leg.

113 A third ſmall branch of the ſame 108, which is ſpent upon the teguments on the inſide of the leg.

114. 114 The diviſion of the branch 108.

115 The exterior branch of the diviſion 114. 114.

116 A ſmall branch of 115, which unites itſelf with the one 119.

117 A twig of the ſmall branch 116, which terminates in the teguments near the calf of the leg.

118 The trunk of 115, which is beſtowed upon the teguments on the fore-part of the leg.

119 The interior branch of the diviſion 114. 114.

120. 120 A ſmall branch of 119, which beſtows the twig 121, and the others in which it terminates, upon the teguments covering the inſide of the leg.

122 The union of the ſmall branch 116 with the branch 119.

123 A twig of the branch 119, which is beſtowed upon the inſide of the leg.

124 The diviſion of the trunk formed by 116 and 119.

125 The exterior branch of the diviſion 124.

126 A twig of the branch 125, which, together with the twig 127, is beſtowed upon the teguments on the fore-part of the leg.

128 A ſmall branch of 125, which, together with its twigs, is diſtributed to the teguments on the upper part of the tarſus or inſtep.

129 Another ſmall branch of 125, which, in the ſame manner as the former, is diſtributed to the teguments on the upper part of the inſtep, near the internal ankle.

130 The interior branch of the diviſion 124, whoſe twigs 131. 131. &c. are ſent to the inſide of the leg.

132 The diviſion of the branch 130.

133 The

133 The interior ſmall branch of 132, which, after having ſent off ſeveral ſmall twigs to the teguments upon the internal ankle, is inſerted into the ligament which connects the bones of the tarſus together.

134 The exterior ſmall branch of 132, which leaves the vena ſaphena a little above the internal ankle.

135. 135. 135 Slender twigs of the ſmall branch 134, which are diſtributed to the teguments covering the internal ankle.

136 More ſlender twigs of 134, which terminate in the teguments on the inſide of the inſtep.

FIGURE XV.

This figure repreſents the nerves of the os ſacrum, and is taken from Vieuſſens, Tab. 29.

A. A The poſterior ſurface of that portion of the medulla ſpinalis, which lies within the vertebræ of the os ſacrum.

B. B The trunk of the loweſt lumbar nerve cut through, which unites itſelf with the loweſt of the os ſacrum, and together with it terminates in the poſterior crural nerve.

C. C The firſt nerve of the os ſacrum.

D. D The ſecond.

E. E The third.

F. F The fourth.

G. G The fifth.

H. H The ſixth, which is diſtributed to the teguments lying upon the os coccygis.

I A production of the ſecond, or of the firſt proper ſheath of the medulla ſpinalis, which terminates in the coccyx.

K. K. K Gangliform plexuſes of the three firſt nerves of the os ſacrum.

* A branch of the intercoſtal nerve, which unites itſelf with the firſt of the os ſacrum, and together with it terminates in the poſterior crural.

L The conjunction of the nerves B and C.

1 A ſmall branch of the united nerves B and C, which after going out of the cavity of the abdomen by the external fiſſure of the os ilium, is divided into two twigs.

2. 2 The inferior twig of the ſmall branch 1, which ſends its fibres to the glutæus minor muſcle.

3. 3 The ſuperior twig of the ſmall branch 1, whoſe fibres are inſerted into the glutæus medius.

4 A ſmall branch of the nerve D, which after going out of the abdomen by the external fiſſure of the os ilium, is divided into two twigs; the inferior of which 5. 5, enters the glutæus medius muſcle, and terminates in it, while the ſuperior 6. 6 is diſperſed through the glutæus major.

M. M The poſterior crural nerve, which is compoſed of the nerves B. C. D and E united, and lies upon the internal ſurface of the os ſacrum; whence happens that numbneſs of the thigh, for moſt part attended with a pain in the loins, in women with child, and when the belly is coſtive.

7. 7 A twig going from the gangliform plexus of the nerve E, which unites itſelf with the nerve F.

8. 8 A ſmall branch of the nerve E, which after ſending off the ſmall twigs 9. 9 to the external iliac, or the pyriform muſcle, terminates in the poſterior crural nerve.

N A ſmall branch of the nerve E, which ſends off the twig 10 to the above pyriform muſcle, then unites itſelf with the nerve F, and at laſt terminates in the poſterior crural nerve.

11. 11 Two twigs of the nerve F, the fibres of which are ſpread upon the rectum.

12. 12 A ſmall branch of the nerve F, which is ſpent partly upon the rectum, partly upon the ſphincter and levator muſcles of the anus, and partly upon the glutæus major of the thigh.

13 The trunk of the nerve F, which unites itſelf with the branch 20.

14 The diviſion of the trunk 13 into two ſmall branches, which go to the teguments on the perinæum, and ſend off the ſmall twigs 15. 15. &c. both to the common and proper coats of the teſticles.

16. 16. 16 Twigs of the fifth nerve of the os ſacrum, which are beſtowed upon the rectum and its levator muſcles.

17. 17 Small twigs of the ſame fifth nerve of the os ſacrum, which terminate in the ſphincter ani, and the neighbouring membranes.

18 The ſixth, or laſt nerve of the os ſacrum, the twigs of which are diſtributed to the teguments covering the coccyx, as was obſerved above.

19. 19 A branch going from the poſterior crural nerve, which is ſpent upon the internal iliac, and internal obturator muſcle.

20 A branch compoſed of united twigs from B and C, going out from the poſterior crural nerve.

21. 21. 21 Twigs of the branch 20, which is ſent to the teguments about the perinæum.

22 A twig of the ſame branch 20, which is ſpent upon the erector muſcle of the penis.

23 Another twig of the ſame, ſent to the accelerator muſcle of the penis.

24 The laſt twigs of the ſame branch 20, which, together with the five above them, are diſperſed through the corpus nervoſum penis, and through the glands.

25 A branch, ariſing from the poſterior crural nerve, whoſe twigs 26. 26. 26 are beſtowed upon the two ſmalleſt of the quadrigemini muſcles.

27 The laſt ſmall twigs of the branch 25, which terminate in the quadrigeminus muſcle, called the quadratus.

28 A branch compoſed of ſome fibres of the nerve D, going out from the poſterior crural nerve.

29. 29. 29 Twigs of the branch 28, diſperſed through the glutæus major, excepting ſome ſmall fibres which terminate in the ſkin.

30 Here the branch 28, receives a twig which is ſent off from the poſterior crural nerve.

31. 31 A branch of the one 30, which is beſtowed partly upon the perinæum, and partly upon the ſcrotum.

32. 32

32. 32 Another branch of the ſame, which divides into two ſmaller ones, ſent to the teguments upon the hind part of the thigh.

O. O The poſterior crural nerve, which near the ham is divided into two conſiderable branches. Obſerve, that ſometimes towards the upper part, and ſometimes towards the middle of the thigh, this nerve appears to be double.

35. 35 A ſmall branch of the poſterior crural nerve, which is ſent to that portion of the biceps muſcle of the thigh, which ariſes from the tuberoſity of the os iſchium.

36 A branch of the poſterior crural nerve, which at its origin ſeems ſometimes divided into three packets.

37 A twig of the branch 36, which terminates in the inferior and longer portion of the triceps.

38. 38 A ſmall twig of the ſame 36, diſtributed to the ſeminervoſus muſcle.

39. 39 Another twig of the ſame branch 36, diſperſed through the ſemimembranoſus muſcle.

40 A branch of the poſterior crural nerve, which ſends off the twig 41. 41, to the fleſhy portion of the biceps of the thigh

42 Small twigs of the branch 40, which terminate in the panniculus carnoſus of the thigh.

43 Small fibres of the branch 40, which are ſpread upon the membranes covering the external and inferior tuberoſity of the os femoris.

44. 44 The laſt ſmall twigs of the branch 40, which are inſerted partly into the membranes in the neighbourhood of the rotula, and partly into the ligaments which connect that bone with thoſe of the thigh and leg.

P The diviſion of the poſterior crural nerve into two remarkable branches, marked Q and R.

Q The exterior and ſmaller branch of the diviſion P.

R The interior and larger branch of the ſame diviſion P.

45 A ſmall twig of the branch Q, which is diſperſed through the membranes lying upper part of the fibula.

46 Another twig of the branch Q, which is ſpent upon the teguments on the outſide of the leg. Obſerve, that this twig towards its origin is ſometimes divided into two ſmaller ones, and theſe ſmall ones ſubdivide into ſmaller and ſmaller fibres.

47. 47 The laſt ſmall twigs of the branch Q, which terminate in the teguments on the external ankle.

48 A ſmall twig of the branch Q, which are ſpent partly upon the teguments on the upper part of the fibula, and partly upon the popliteus muſcle.

49. 49 Another ſmall twig of the branch Q, which is beſtowed upon the peronæus anticus muſcle.

50 The continuation of the branch Q.

51. 51 The diviſion of the above 50 into two ſmall branches, the leſſer of which 52, terminates in the peronæus anticus muſcle, and the larger one 53. 53, is inſerted into the peronæus poſticus.

54. 54 A twig of the branch Q, which is ſpent upon the peronæus anticus muſcle.

55 Another

55 Another twig of the branch Q, whoſe fibres 56, terminate in the tibialis anticus muſcle, and thoſe 57, in the long extenſor of the toes.

S. S The diviſion of the branch Q.

T The larger branch of the diviſion S. S.

58. 58 A twig of the branch T, which terminates in the tibialis anticus muſcle.

u. u The diviſion of the branch T.

59 A ſmall branch of the one u. u.

60 A twig of the ſmall branch 59, which is diſtributed to the long extenſor of the toes.

61 Another twig of the ſmall branch 59, which terminates in the cellular membrane under the ſkin.

62. 62 More twigs of the ſmall branch 59, which are ſpent upon the teguments on the inſtep.

63. 63 Another ſmall twig of the branch 59, the fibres of which are diſtributed to the membranes upon the tarſus, and the interoſſeous muſcles of the toes.

64. 64. 64 More ſmall twigs of the ſame 59, which are beſtowed upon the teguments on the inſide of the metatarſus.

65. 65 The laſt ſlender fibres of the ſmall branch 59, which are ſent to the teguments on the upper part of the great toe.

66. 66 The other ſmall branch of the diviſion u. u, which paſſes through the long extenſor muſcle of the toes.

67. 67 Two ſlender twigs of the ſmall branch 66. 66, which are ſpent upon the extenſor muſcle of the great toe.

68 A ſlender twig of the ſame ſmall branch 66. 66, which, together with 67. 67, terminates in the extenſor muſcle of the great toe.

69 Another ſlender twig of the ſame 66. 66, which is diſperſed through the tibialis anticus muſcle.

70. 70 The diviſion of the ſmall branch 66. 66.

71 A ſmall nervous twig, by means of which the two branches 70. 70, communicate with one another.

72. 72 The conjunction of the two branches 70. 70.

73. 73 The ſecond diviſion of the ſmall branch 66. 66.

74. 74 The exterior branch of the diviſion 73. 73, which beſtows its twigs upon the ſhort extenſor of the fingers, the membranes of the tarſus, and the interoſſeous muſcles.

75. 75 The middle branch of the diviſion 73. 73, which after having paſſed under the annular ligament of the tarſus, together with the other branches of the ſame diviſion, is divided into two ſmaller ones, which are diſperſed through the membranes upon the tarſus and metatarſus, and likewiſe the interoſſeous muſcles.

76. 76 The interior and largeſt branch of 73. 73.

77 A twig of 76. 76, which is ſpent upon the teguments of the metatarſus.

78. 78 The diviſion of the branch 76. 76 into two ſmaller ones.

79. 79 The interior branch of 78. 78, which is beſtowed upon the upper and lateral part of the great toe, next the ſecond toe.

80. 80

80. 80 The exterior branch of 78. 78, which is ſpread upon the upper and lateral part of the ſecond toe, next the great toe.

X. X The ſmaller branch of the diviſion S. S.

81 A twig of the branch X. X, which is inſerted into the peronæus anticus muſcle.

82. 82 Another twig of the branch X. X, which is diſperſed through the peronæus poſticus muſcle.

83. 83 The continuation of X. X, which lying upon the peronæus poſticus, and adhering to it, runs downwards, and forwards a little above the external ankle.

84. 84. 84 More twigs of X. X, which are inſerted into the teguments upon the external ankle.

85. 85 Gangliform plexuſes, which the branch X. X ſometimes forms towards the fore-part of the leg, a little above the ankles.

86. 86 Twigs going out from the above plexuſes, to be beſtowed upon the teguments.

87 The diviſion of the branch X. X.

88 The interior branch of the diviſion 87, which ſends off twigs here and there to the teguments of the tarſus and metatarſus

89. 89 The diviſion of the branch 88 into two ſmaller ones.

90. 90 A branch of the diviſion 89. 89, which is diſperſed upon the upper and lateral part of the ſecond toe, next the third toe.

91. 91 Another branch of the diviſion 89. 89, ſent to the upper and lateral part of the third toe, next the ſecond.

92 The exterior branch of the diviſion 87.

93. 93 A twig of the branch 92, which is ſpent upon the ſhort extenſor of the toes.

94. 94 Twigs of the branch 92, which, together with four of its fibres which are not marked, are inſerted into the teguments of the tarſus and metatarſus.

95 The diviſion of the branch 92 into two ſmaller ones.

96 A branch of the diviſion 95, of which the twig 97. 97, together with its fibres, is diſtributed to the upper and lateral part of the third toe, next to the fourth toe; while the twig 98. 98, is beſtowed upon the upper and lateral part of the fourth toe, next to the third.

99 The other branch of the diviſion 95. 95, of which the twig 100, is ſent to the upper and lateral part of the fourth toe, next the little toe; while the twig 101, is diſperſed upon the upper and lateral part of the little toe, next the fourth.

102 A twig of the branch R, which is inſerted into the plantaris muſcle.

103 Another twig of the branch R, ſent to the poplitæus muſcle, and the neighbouring membranes.

104 A third twig of the branch R, which enters the interior head of the gaſtrocnemius muſcle, and is diſperſed through it.

105 A conſiderable branch of the one R.

106 The diviſion of the branch 105 into three ſmaller ones,

107 A branch of 106, which enters the inner head of the gaſtrocnemius muſcle, and is diſtributed through it.

108 The middle branch of 106, which is ſpent upon the ſoleus muſcle.

109 The largeſt branch of 106, which is divided into two ſmaller ones; of which the one marked 110. 110, is ſent to the teguments upon the outſide of the calf of the leg, and runs down to the extremity of the tendo Achillis.

111 A ſmall branch of the one 109, which, together with 110. 110, is beſtowed upon the teguments on the outſide of the calf of the leg. Here it muſt be obſerved, that this ſmall branch is very frequently wanting, and then its place is ſupplied by another reſembling it, which is ſent off from the branch Q of the diviſion P, and receives ſome twigs from the branch R. Beſides, this nerve is ſometimes ſent to the upper part of the little toe, and of the one next to it, and likewiſe ſends off one twig to the third; and then the branch X. X going down to the tarſus and metatarſus, is beſtowed entirely upon the teguments, and ſcarce reaches as far as the toes; but this ſeldom happens.

112 A twig of the ſmall branch 111, which is ſpent upon the teguments on the external ankle.

113. 113. 113 Twigs of the ſmall branch 111, which are beſtowed partly upon the teguments on the outſide of the ankle, and partly upon the fungous fleſhy maſs which fills up the ſole of the foot.

114. 114 More twigs of the ſmall branch 111, which are ſpent upon the teguments of the foot.

115 More twigs of the ſame 111, which are diſtributed partly to the teguments of the foot, and partly to the abductor muſcle of the little toe.

116 Another twig of the ſame 111, which terminates in the teguments of the metatarſus.

117. 117 The laſt ſlender fibres of the ſmall branch 111, which together with the twig 101, are ſent to the upper part of the little toe.

118 A large twig of the branch R, which ſends off the ſmaller ones 119 and 120. 120, to the membranes covering the head of the tibialis poſticus muſcle.

121. 121 Another large twig of the branch R, which is diſperſed through the ſame muſcle.

122 A ſmaller twig of the branch R, which enters the belly of the ſoleus muſcle, and is diſperſed through it.

123 Another ſmall twig of the branch R, which is inſerted into the coats of the veſſels near the calf of the leg.

124 A larger twig of the branch R, which is beſtowed upon the long extenſor of the toes.

125 A ſmall twig of the branch R, which terminates in the flexor muſcle of the great toe.

126 Another ſmall twig of the branch R, which is ſpent upon the tibialis poſticus muſcle.

Y. Y The continuation of the branch R, which runs downwards under the graſtrocnemius and ſoleus muſcles.

Z The branch R cut through. The diſtribution of what remains of it, you may *ſee in the next figure.*

FIGURE

FIGURE XVI.

This figure represents the distribution of the nerve which supplies the sole of the foot, and is taken from Vieussens, Tab. 30.

A The continuation of the branch R of the former figure, cut through here as well as in that figure.

1. 1. 1 Three twigs of the branch A, which are distributed partly to the teguments on the inside of the ankle, and partly to the fleshy fungous mass which fills up the sole of the foot.

2. 2 A twig of the same, which is likewise sent to the teguments on the inside of the ankle, excepting some fibres which are distributed to the fleshy mass just now mentioned.

B The division of the branch a into two smaller ones.

C. C The interior branch of the division B.

3. 3. 3 Small twigs of the branch C. C, which terminate in the neighbouring membranes.

4 A small twig of the branch C. C, which enters the middle of the belly of the short flexor of the toes, and is dispersed through it.

D The division of the branch C. C.

E A branch of the division D.

5 A twig of the branch E, which after sending off the fibres 6. 6. 6 to the short flexor of the toes, unites itself again with the same branch E, from which it was sent off.

7. 7. 7. 7. &c. Small twigs of the branch E, which terminate partly in the first interosseous muscle of the great toe, and partly in the abductor muscle of the same.

8. 8 Here the branch E receives the twig which it had before sent off.

9. 9. 9. 9 The last small twigs of the branch E, which are bestowed upon the lower and lateral part of the great toe.

F The other branch of the division D.

G The division of the branch F.

H A branch of the division G.

10. 10. 10 Small twigs of the branch H, which are spent upon the lumbricales muscles, and the fleshy mass which is contiguous, and adhering to them.

I The division of the branch H into two smaller ones.

11 A branch of the division I, which is sent to the lower and lateral part of the great toe, next the second toe.

12 The other branch of the division I, which is bestowed upon the lower and lateral part of the second toe, next the great toe.

K The other branch of the division G.

L The division of the branch K.

13. 13 Two small nervous fibres, which are sent to the neighbouring membranes.

M. M A branch of the division L.

N. N The diviſion of the branch M. M into two ſmaller ones, of which the one 14, is ſent to the lower and lateral part of the ſecond toe, next the third; and the other 15, is ſent to the lower and lateral part of the third toe, next the ſecond.

O. O The other branch of the diviſion L.

P. P The diviſion of the branch O. O into two ſmaller ones, of which the one 16, is ſpread upon the lower and lateral part of the third toe, next the fourth; and the other 17, upon the lower and lateral part of the fourth toe, next the third.

Q The exterior branch of the diviſion B.

18 A twig of the branch Q, which is inſerted partly into the neighbouring membranes, and partly into the fleſhy maſs which ariſes from the os calcis, and by ſome anatomiſts is taken for a muſcle; the tendinous part of which unites itſelf with the tendons of the ſhort flexor muſcle of the toes.

19 A twig of the branch Q, which enters the ſhort flexor muſcle of the toes, and terminates in it.

20. 20 Two twigs of the branch Q, inſerted into the fleſhy maſs which ariſes from the heel, and ſends off ſlips to the lumbricales muſcles.

21 A twig of the branch Q, which is diſtributed to the above fleſhy maſs, and likewiſe to that which fills up the ſole of the foot.

22 Another twig of the branch Q, which is diſperſed through the abovesaid fleſhy maſs, lying under the tarſus and the metatarſus.

R A branch of the one Q, which is ſpent upon the lumbricales, the adductors of the great toe, and the interoſſeous muſcles; excepting thoſe twigs 23. 23, which are ſent to the tranſverſalis pedis, or the adductor of the little toe, and to that part of the fleſhy maſs which is ſituated near the little toe.

S. S The diviſion of the branch Q.

T The interior branch of the diviſion S. S, which, after ſending off the three twigs 24. 24. 24, to the lumbricales and interoſſeous muſcles, is divided into two ſmaller branches; one of which 25, is diſtributed to the lower and lateral part of the fourth toe, next the little toe; and the other 26, to the ſame parts of the little toe, next the fourth.

V The exterior branch of the diviſion S. S.

27. 27 Two twigs of the branch V, which are ſpent upon the lumbricales and interoſſeous muſcles, and likewiſe upon the integuments.

28. 28 Two other twigs of the branch V, which are beſtowed upon the external part of the fleſhy maſs upon the ſole of the foot.

29. 29 Two more twigs of the branch V, which are inſerted into the abductor muſcle of the little toe.

30 The laſt ſmall twigs of the branch V, which, together with the branch 26, are ſent to the lower part of the little toe. Here it muſt be obſerved, that the moſt part of the twigs of the branch V, have a ſmall gangliform plexus.

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